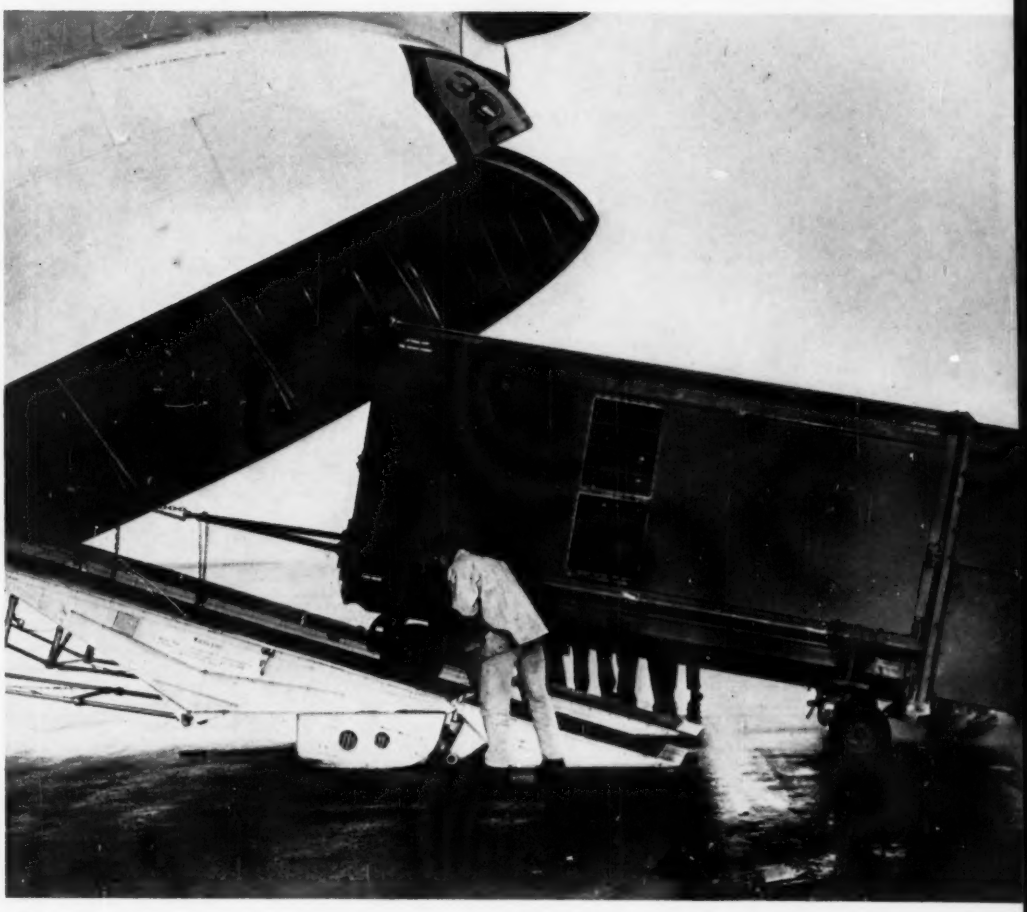
VOL. 161 — NO. 2

JULY 8, 1961

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY



A unit of the AN/TSC-18, which is shown being loaded aboard a C-124 for transport anywhere, is a part of the Army's new family of three long-range air-transportable communications systems. The TSC-18, which has a range of 7,000 miles, is the most powerful air-transportable communications system in the world. See story, page 27.

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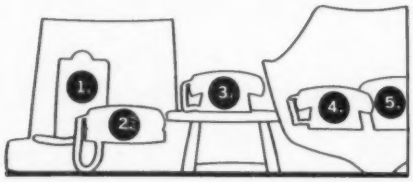

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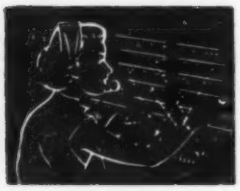

FLASHES AND PLUGS

IN THE STREAM OF THINGS. In Milwaukee, Wis., recently, the *Journal* reported a telephone call from a mail carrier who described this scene:

On N. Water St., where the Marine Plaza is going up, workmen had strung a water hose across the street. The hose broke from the repeated pressures of car tires, showering a group of near-by workmen generously with water.

As they ran, one man paused—at the side of a car carrying Illinois license plates—to shake the water from his clothes.

"Sir," said the woman driver, "can you tell me where Water St. is?"

Surveying the wet scene in which he and the car were standing, he said disgustedly, "Lady, where else?"

•

BEFORE THE DAM BROKE. This being the season for weddings, the perturbation of a bride's father—when he learned that the piece of statuary he had ordered months before for the garden might not be part of the backdrop for the nuptials—can be understood. A neat gardener himself, he had been doing many things on his own, but the statuary firm was in New York, and he lived in the Midwest.

He telephoned a Mr. Spring in the New York office in an effort to speed up the arrival of the sculpture. At first, it was reported the sculpture would be there; a bit later, they said they couldn't meet the wedding date. Then, they said they could, but didn't, and finally, they had to admit, they just couldn't have the piece for the garden by the date of the wedding.

The father of the bride resorted to what apparently, was his most drastic threat. His name, coincidentally, is Elmer Winter. He telephoned Mr. Spring in New York, and hinted darkly, "Mr. Spring, do you know what happens when there is a late Winter?"

Without further ado, the sculpture arrived for the wedding.

•

BETTER'N BUCK ROGERS. In the future, when telephone and TV come to us via satellite, judging by this story of modern, blasé children, it is going to take a lot to make them appreciate the marvels that are happening.

It is reported that a teacher was explaining the wonders which science has uncovered about the universe. "Just think," she exclaimed, "The light we need comes all the way from the sun at the speed of 186,000 miles per second. Isn't that unbelievable?"

"Aw, I dunno," reported an unimpressed child, "after all, it's downhill all the way."

CHANGE OF ADDRESS

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Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

1901 — 60 years — 1961

July 8, 1961

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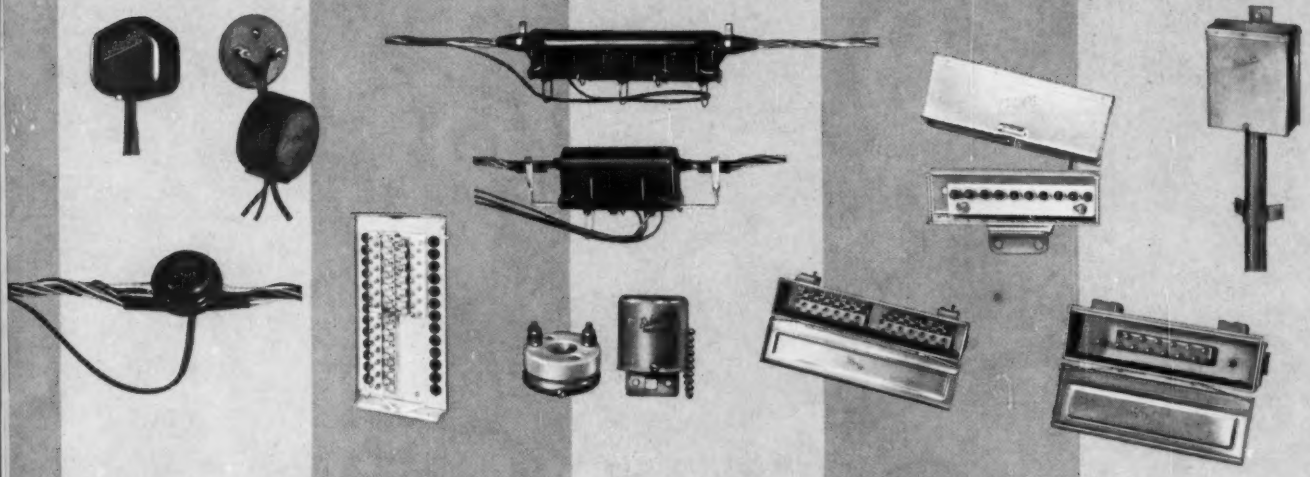

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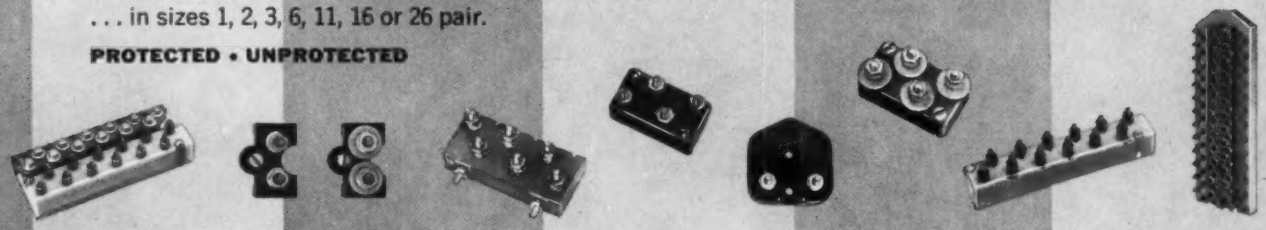

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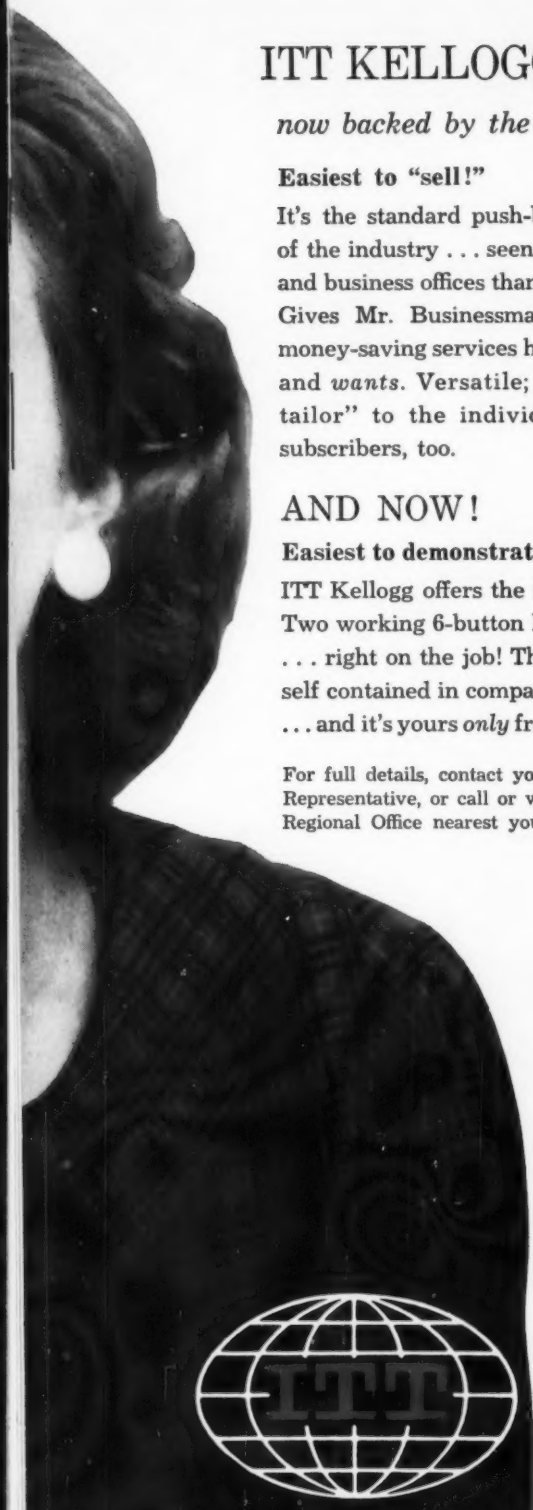

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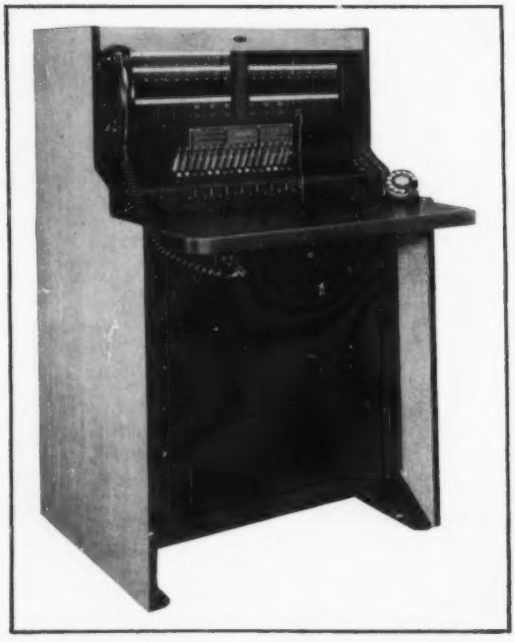

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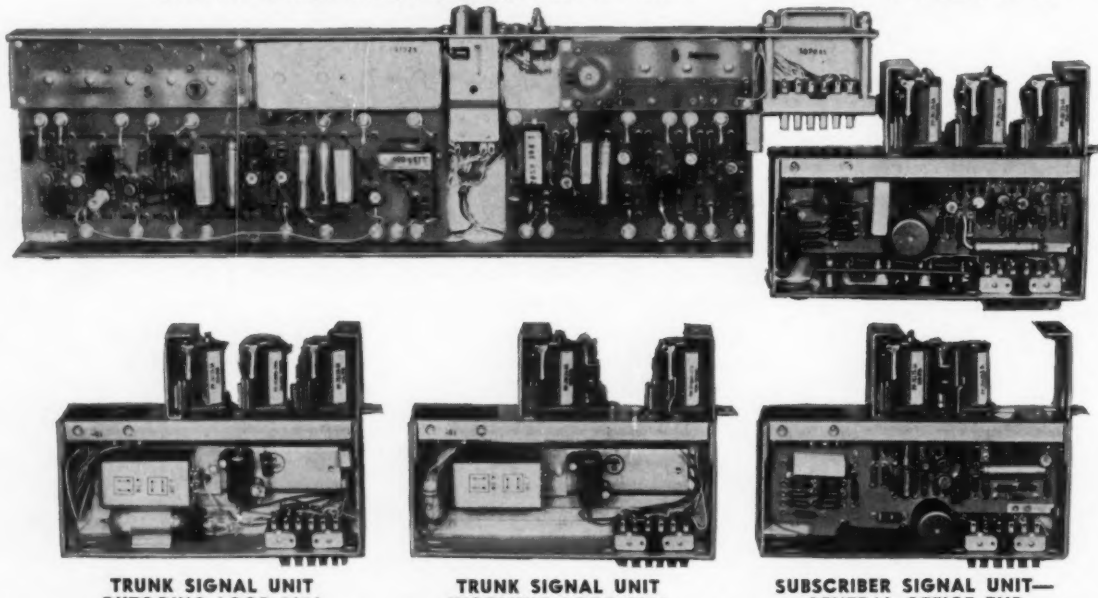

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TRUNK SIGNAL UNIT
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SUBSCRIBER SIGNAL UNIT—
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- Subscriber applications — cable
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New, long KOILED KORDS retractile cords in color — and in black — are offered in two standard lengths, 18 inches retracted that extend to approximately 9 feet and 30 inches retracted that extend to 15 feet.

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KOILED KORDS, the original retractile cords, are the result of 17 years of research, development and use.

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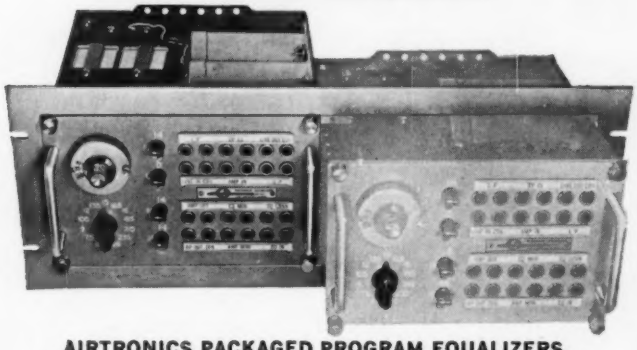

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IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH AND LAWRENCE J. HOGAN
WASHINGTON EDITORS OF TELEPHONY

Committees approve bills providing stiff penalties for damaging communications facilities. . . . Outgrowth of recent bombings of Nevada-Utah relay stations. Kennedy asks National Space Council to study communication satellites. President not getting his way in federal commission reorganization plans.

NORMALLY the legislative process in Washington grinds slowly, but every now and then some incident of public import occurs which stimulates the Capitol Hill production machinery, and presto, a new federal law results.

Such is the case of H.R. 3749, authored by Rep. John Dowdy (D., Tex.), and S. 1990, sponsored by Sen. James Eastland (D., Miss.) and Sen. Thomas J. Dodd (D., Conn.), which would beef up the penalties for acts of sabotage such as the recent bombings of the Nevada-Utah microwave relay towers of AT&T (TELEPHONY, June 10).

Following the blasts, FBI investigation led to the "American Republic Army" which consisted of one general and one private: 51-year-old Bernard Brous, alias Robert Hill, "John Brown," "Marquis de France," etc., and 23-year-old Dale Jensen, respectively. The pair were arrested in Mexico as a result of the FBI investigation, and charged with the bombings.

Originally, it was feared that the incidents were an organized attempt to sabotage U. S. security communications, but the FBI investigation turned up absolutely no indication that anyone other than Brous and Jensen were involved.

The history of the bizarre incident had its roots in Houston, Tex., where Brous had an interest in a construction company doing work for the Southwestern Bell Telephone Co. After a dispute Brous seemed to develop an unbalanced animosity towards AT&T and big business in general. When he met Jensen in Los Angeles, he was somehow able to recruit the younger man for his anti-big business "war." Jensen, a former construction worker, knew about explosives, so he became the demolition expert for the two-man army. Brous, whose father bequeathed him $40,000 in 1943, bought a 47-foot yacht, the "Monsoon," on which they cached grenades, ammunition and seven tons of machine guns. (Jensen commented after his arrest that the arms were purchased to protect them from the "AT&T goon squads.") Some time prior to the bombings, they sailed to Mexico where they left the "Monsoon." Following the explosions, the pair fled to the yacht and were arrested on board in Ensenada, Mexico. They are now being held in the San Diego County Jail on $300,000 bond with charges of bombing and conspiracy to commit sabotage pending against them.

AT&T in testimony before a House Judiciary Sub-committee estimated that the explosions caused $1,000,000 worth of damage.

The downfall of the "American Republic Army" was triggered by the thousands of letters Brous sent under various aliases to prominent individuals throughout the country, including President Kennedy.

Just as the Graham incident a few years ago caused Congress to strengthen legislation regarding the sabotage of commercial airliners, the Brous-Jensen fiasco will undoubtedly result in swift enactment of the above-mentioned proposals to protect communication facilities.

It will be recalled that publicity about the Graham case resulted in a series of additional bomb scares, so the possibility should not be overlooked that the present incident could trigger latent animosities which some psychos might harbor against telephone companies. Telephone companies might be well-advised to scrutinize the security of their installations.

The Dodd-Eastland bill, passed by the Senate on June 29, amends Section 1362 of Title 18, U. S. Code as follows:

"Whoever willfully or maliciously injures or destroys any of the works, property, or material of any radio, telegraph, telephone or cable, line, station, or system, or other means of communication, operated or controlled by the United States, or used or intended to be used for military or civil defense functions of the United States, whether constructed or in process of construction, or willfully or maliciously interferes in any way with the working or use of any such line, or system, or willfully or maliciously obstructs, hinders, or delays the transmission of any communication over any such line, or system, shall be fined not more than $10,000 or imprisoned not more than ten years, or both.

"In the case of any works, property, or material, not operated or controlled by the United States, this section shall not apply to any lawful strike activity, or other lawful concerted activities for the purpose of collective bargaining or other mutual aid and protection which do not injure or destroy any line or system used or intended to be used for the military or civil defense functions of the United States."

A statement introduced by Senator

Eastland about the bill indicates that its purpose is to extend the protection of the federal statute to certain vital communications facilities not now covered. The existing statute only protects communications facilities owned or controlled by the U. S. Government. Numerous other facilities would not come under federal control until the outbreak of hostilities. The Conelrad network, some of our early warning systems and other communications facilities of strategic defense importance lie outside the protection of present laws. Obviously, destruction of these facilities while they are on a standby status would be just as crippling to our defense effort as when we are under a national emergency. The Senate agreed and passed the bill which would extend this protection.

Originally, S. 1990 provided a penalty of only a $1,000 fine or three years in prison. Following testimony by witnesses, however, the penalty was increased to $10,000 and 10 years in jail, or both. A union witness expressed concern that the bill in its original form might be considered as covering some lawful union activities, so the paragraph of the bill quoted above, was added.

H.R. 3749, the companion bill pending before the House Judiciary Committee, also originally provided for the $1,000 fine and three years in prison penalty which was increased to $10,000 and 10 years, or both. The House Judiciary Sub-committee approved the bill and as of this writing it is pending before the full committee. The bill will undoubtedly pass without opposition and be enacted into law at an early date.

Among the witnesses supporting the legislation were Herbert H. Goetschius and John J. McKenna of AT&T, Brig. Gen. John B. Bestic, U. S. Air Force Communications Officer, and William L. Allen, President of the International Commercial Telegraphers Union.

The Department of Justice, The Department of Defense, and the Office of Civilian Defense Mobilization all strongly urge that the legislation be enacted.

Progress on the Satellites

President Kennedy intervened, to some extent, in the space communication satellite situation when he called upon Vice President Johnson to get the National Space Council moving, as soon as possible, on whatever is necessary to get early results in the space communication satellite setup. Vice President Johnson is the chairman of the National Space Council, and it is assumed that he will pay attention to what the boss says.

Recent Quotations of Telephone Stock

	6/29/61 BID	6/29/61 ASKED	5/31/61 BID	5/31/61 ASKED	Current Indicated Dividend Rate
Anglo-Canadian Tel. Co.	43	46	47½	50	$1.20
British Columbia Tel. Co.	48	49½	50½	52½	2.20
California Interstate Tel. Co.	21⅛	22⅛	20¼	21¼	.70
California Pacific Utilities Co.	21	22½	25	27	.90
California Water & Tel. Co.	36¼	37½	35½	37½	1.36
Carolina Tel. & Tel. Co.	45½	48	45½	47½	1.60
Central Tel. Co.	28¼	30	28	30	.88 + Stk.
Chenango & Unadilla Tel. Corp.	27½ Bid		27 Bid		1.35
Cincinnati & Subn. Bell Tel. Co.	108½	110½	107	110	4.50
Citizens Utility Co. "A"	28¼	30	26	27½	Stock Div.
Citizens Utility Co. "B"	26½	28	23	24¾	.60
Commonwealth Tel. Co.	25½	27	25	26½	1.00
Florida Tel. Corp. Class A	26¼	28	28½	30	1.00
General Tel. & Elec. Corp. Common	26 Last Sale		27⅛ Last Sale		.76
Hawaiian Tel. Co.	18⅛	19⅛	19	20	.54
Indiana Tel. Corp.	33 Bid		33 Bid		
Inter-County Tel. & Tel. Co.	27	28½	28	30	.72 + Stk.
Inter-Mountain Tel. Co.	19¼	21	19	20¼	.80
Jamestown Tel. Corp.	90 Bid		90 Bid		6.00
Lincoln Tel. & Tel. Co.	66½ Bid		65 Bid		2.60
Lorain Tel. Corp.	35 Bid		35 Bid		1.40 + Stk.
Middle States Tel. Co. of Ill.	35½	37½	35½	37½	.92
North Carolina Tel. Co.	1⅛	1⅝	1½	2	
Northern O. Tel. Co.	66½ Bid		65	68	2.00
*Peoples Tel. Co.	21 Bid		105 Bid		.80
Pioneer Tel. Co.	36 Bid		36 Bid		1.00 + Stk.
Rochester Tel. Co.	26⅜ Last Sale		27¾ Last Sale		1.00
Southeastern Tel. Co.	23	25	26	28	1.00
Southern Nevada Tel. Co.	38	40	42½ Bid		1.20
Southern New England Tel. Co.	50	51½	52¼	54	2.20
Southwestern States Tel. Co.	30	31½	30	31½	1.28
Tel. Service Co. of O. Class A.	28	30	31	33	.36 + Stk.
Tidewater Tel. Co.	27 Bid		27 Bid		1.40
United Utilities, Inc.	25¾	27	26¾	28	.80
Western Carolina Tel. Co.	9¾	10¾	9¾	10¾	.43
West Coast Tel. Co.	34	35¼	34½	36	1.36
Western Light & Tel. Co., Inc.	31	32½	32¼	34¼	1.20
Western Utility Corp.	11½	12½	12½	13½	.40

*After 5 for 1 split

The President asked that steps be taken towards getting the working space communication satellites into orbit as soon as possible. He also requested a series of studies and policy recommendations to make the most widespread use of such satellites. All federal agencies with any responsibility in this area will be asked to help the council to carry on the studies and assist in preparing policy proposals on ownership and operation of the satellites.

All this does not mean that President Kennedy has any idea of taking out of the hands of the Federal Communications Commission the basic decision which it now has before it of awarding frequencies for the operation of rival space satellite proposals from various interests, including the American Telephone & Telegraph Co. and General Telephone & Electronics Corp. The scope of the National Space Council is broader than that, and includes the use of space satellites for any form of communication — government, commercial, military, navigation, scientific, and so forth.

But the council will naturally be an influence on the eventual policy of the federal government with respect to the use of space satellites by commercial communications companies.

"I am anxious that this new technology be applied to serve the rapidly expanding communications needs of this and other nations on a global basis, giving particular attention to those of this hemisphere and newly developing nations throughout the world," Kennedy said. Federal agencies will help the council carry on the studies and prepare policy proposals on ownership and operation of satellites, the President added.

Kennedy said research and development should be expedited while the council studies ways to establish the global communications network. The President said that both public and private resources must be used to develop the satellites. He added that close cooperation between government agencies and the space, military, and regulatory fields will be required to assure speedy action. The public interest should be given "highest priority" in the council's analysis of the space communications field, he said.

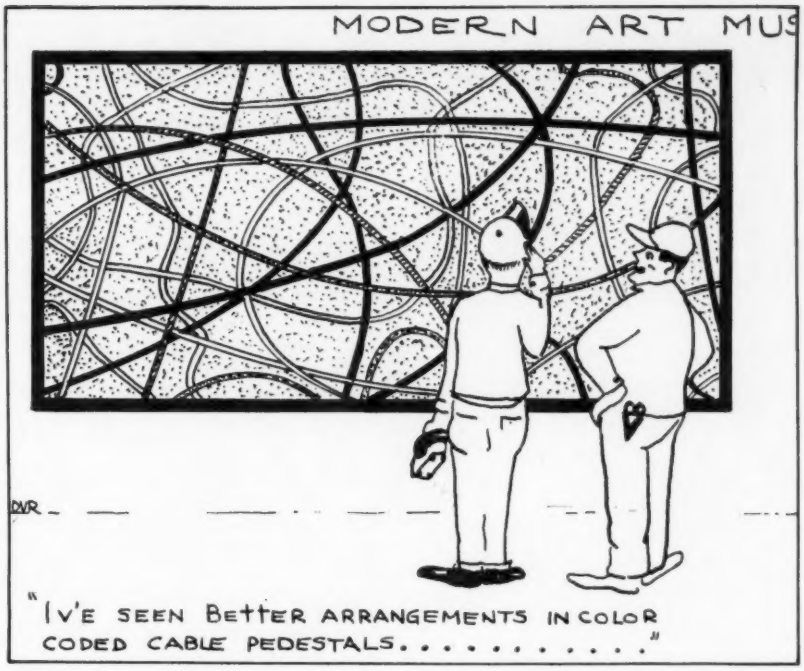
General Telephone & Electronics Corp. had asked the FCC to provide for allocation of a frequency band for

an experimental world-wide space communications system, corporation officials said. The experimental system would utilize satellites orbiting 22,300 miles above the earth. The corporation said that such methods constitute "the only system proposed to date that can economically fulfill the requirements of global satellite communications."

The orbiting of the first nuclear battery-powered "three-in-one" satellite on June 29 marked an important first in the development of the United States' plans for a space communication system. The historic "three-in-one" rocket was carried aloft by a Thor-Able-Star rocket. The successful shot proved the feasibility of joining the power of the atom to orbiting space craft.

The Nuclear generators are lightweight and long-lived, and will be used to provide electricity for communications, navigation, and military satellites that can remain in operation for years. The primary purposes of the three orbiting packages are for an all-weather navigation system, and to collect radiation information.

It will be recalled that multi-satellite orbitings on board the same single rocket launching have been a very definite part of the communications space satellite agenda — especially the Bell System program. Sending these satellites up like clusters of grapes to be broken off and distributed in random orbit will be a much cheaper method of getting a lot more pay load into space. That would mean much less cost per satellite because the expensive rocketry would be shared by the number of satellites put into orbit.



Kennedy and Commissions

This has nothing to do with the FCC or communications, but it has a bearing on the over-all regulatory picture and President Kennedy's drive to remodel the federal commissions. During the last week of June, he did a little better on his reorganization programs, but there is still plenty of heavy going ahead for the Kennedy-Landis plans in Congress.

Beaten twice outright—once in the House on the FCC and once in the Senate on the SEC reorganization programs—the Kennedy forces had to fall back and regroup. The plans to reorganize the Civil Aeronautics Board (CAB) and the Federal Maritime Board (FMB) were in bad trouble. Unfavorable senate committee reports were pushing them both into the ditch when the call to party allegiance, plus what attractive side offers the administration lobbyists had to make, managed to reverse the tide on a floor vote.

The CAB plan was finally approved by a cliff-hanging vote of 37 to 33, overcoming the unfavorable committee report. But by a somewhat wider margin the Senate also defeated a resolution to kill the Federal Trade Commission (FTC) plan by a vote of 47 to 31. This means that both plans are now in effect, having survived test votes over on the House side. At this writing, the plan for reorganizing the Federal Maritime Board was still in trouble.

The most controversial of all Kennedy's ideas about revamping the Federal Power Commission has not even been sent to Congress. And he may decide not to do so rather than risk a further defeat, plus the fact, that he now has very definite control of that commission through his own appointments.

The objection raised in Congress to these reorganization plans have all been similar. Congress simply did not relish the idea of turning over control of these commissions to the White House, even in a limited way. The limited way proposed in all of these plans was to make the respective chairmen of all commissions hold these jobs solely at the pleasure of the White House, and then give them the exclusive power of assigning all cases—either to the full commission, or to a panel of commissioners or to examiners, or even to staff officials. There was no doubt about sound procedural reason for these proposals; but Congress feared that once such reorganizations took place the White House influence would eventually crowd out the traditional influence of Congress.

President Kennedy was assured substantial control over the FPC through a compromise agreement with the Republican hold-over chairman, Jerome K. Kuykendall. Under Kennedy's original plan, Kuykendall would be out immediately and his new appointee, Joseph C. Swidler—Nashville attorney—would move in and exercise the increased power of the chairman. But there was a serious legal question about dislodging an incumbent chairman under the present Federal Power Commission law —unless he were guilty of something besides being a member of the wrong political party. The Republicans had threatened to go to court if President Kennedy attempted to bounce Kuykendall forthwith. But Kuykendall's term as commissioner expires anyhow next June, and he had evidenced a desire of leaving even before that time. So, the matter was arranged peacefully. Kuykendall will stay on as chairman until Sept. 1; after that Swidler will take over.

Meanwhile, President Kennedy already has appointed three out of the five members of the FPC. The other two beside Swidler are Howard Morgan, former Oregon utility commissioner, and Laurence O'Connor, former Texas oil man and more recently an Interior Department official. Both Swidler and Morgan already have been confirmed and there is no opposition to O'Connor. If Kuykendall leaves by way of resignation next fall, President Kennedy will then have four out of five of his appointees on the board. So, why does he need a reorganization plan to bring it closer under White House control, if that were his object?

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PUBLIC RELATIONS

A Management Responsibility

By LAWRENCE J. HOGAN

OVER THE YEARS telephone companies, generally, have been more public relations conscious than most other industries. Close and constant contact with the whimsical consuming public is enough to convince anyone that, to be successful, a business enterprise needs a favorable atmosphere of receptivity with the public.

This growing awareness has caused geometric growth of the public relations profession. There are an estimated 100,000 persons employed in the field throughout the nation. Several thousand companies, large and small, have their own public relations departments and new departments are being created at the rate of 100 per year. Many companies, instead of establishing their own PR departments, retain outside firms to carry out these duties. Some companies which have their own PR departments retain these counseling firms to supplement their staff people. There are approximately 1,500 of these public relations firms throughout the country and experts predict that this figure will double in the next decade.

Misunderstood Profession

Public relations courses are being taught in 174 colleges and universities and 13 of these schools make public relations a major field of undergraduate study.

Increasingly, people are coming to PR practitioners seeking guidance.

In spite of this extensive activity, it is one of the least known and most misunderstood professions in our society. A startling number of otherwise well-informed businessmen and industrialists don't understand public relations and overlook its potential as a tool of management.

Because it is such an intangible subject, public relations is difficult to accurately define. It's the sum total of all an organization's activities which have an effect on individuals. It's a conscious effort to motivate or influence people to respect an organization and support its views. It has also been described as good conduct coupled with good reporting; being good and getting credit for it; the art of doing the right thing at the right time in the right way and then telling the public about it in the most effective manner.

Several Publics to Reach

Actually it is really not something which you say or do, it is something which you *are*. It's being what people think you should be.

Every company has several separate, but not necessarily distinct, publics which are important to its field of activity. A telephone company's publics would include customers, employes, stockholders, government officials, suppliers, and the community in which it operates. The techniques for effectively communicating with these groups vary. The public relations practitioner, therefore, must study his targets carefully so he can effectively aim the ideas of his client and transmit them in the language, fields of interest, and media of communication which are peculiar to the specific group.

To transmit your ideas to customers it is wise to relate your message to improved service, lower rates, convenience of the family, contributions to the community, etc. The best avenues of communication might include stuffers accompanying monthly bills, speeches at civic meetings, stories in general circulation newspapers, and radio and television interviews.

Employes and Stockholders

When your ideas are being directed to your employes, you will want to couch your ideas in considerations of increased employe benefits, security for their families, pride in the company, etc. Some effective media would include stories in your employe publication, or a union newspaper, pay envelope stuffers, letters to wives, bulletin boards, company "grapevine," speeches at staff meetings, etc.

Stockholders, on the other hand, are primarily interested in the efficiency of the company, dividends, and the value of their ownership. Exposure to stockholders can be best achieved through the business pages of newspapers, business publications, personal letters, speeches before such groups as Rotary Clubs and chambers of commerce, reports to stockholders, annual reports and speeches at stockholder meetings.

The PR practitioner's technique is to take ideas which the company desires to promulgate and clothe them in such a way that the publics with which he is communicating will see in those ideas something of strong personal interest.

A company's public relations program must be built on harmonious relationships with each of the organization's publics, because everything which comes to their attention about the company either adds to or subtracts from the company's reputation.

The underlying aim of a company's PR program, then, must be to make all of these impressions favorable. Obviously, this Utopian ambition can never be fully realized, but, to work in this direction, public relations consciousness must permeate every phase of the organization's operations. From

the chairman of the board to the part-time helper in the stockroom, employes must be imbued with the philosophy that they share the company's public relations responsibilities.

Mirrored Reflection of Firm

In a speech before the Bell System Public Relations Conference in 1947, Keith S. McHugh, who was then vice president of American Telephone & Telegraph Co., commented about the public relations of telephone companies:

"The people who make up the public are citizens as well as telephone users, and think of us from both points of view. As citizens, they drive through city streets and over country roads and see our crews at work. They think we are efficient or not efficient, based on what they see these crews doing. They form their judgments when we make pole placements, trim trees, construct buildings, open the streets to place cable, in fact, when engaged in any of the multitude of operations which are necessary to our business. These offend if done carelessly or thoughtlessly; they please, or perhaps fail to offend, if done well.

"The citizen forms judgments of our operations in other ways. Do telephone people as citizens or as representatives of the company participate actively in worthwhile community affairs? Does the company contribute to worthwhile community enterprises — prodigally — fairly — in a miserly way — or not at all?

"Do telephone men and women take so wholehearted and genuine an interest in the community that it never occurs to other citizens to question their enthusiasm and freedom to act on community problems? Do most decisions of the company, of importance to the community or its citizens, wait interminably while impotent local management checks headquarters?

". . . . In the long run, people's ideas of our efficiency are determined largely by the little things we do or fail to do. I am assuming, of course, a fundamentally good technical service job and sound general policies. Beyond these, the fact and quality of the 'overtones of service' and of what we might label correspondingly the 'overtones of corporate acts' are the things by which people judge us. The little extra courtesies of the commercial representative, of the installer, the repairman, the operator; the character of personal interviews with customers whether rich or poor, prominent or unknown, to explain errors or service difficulties or perhaps the inability to give any service; the knowledge of the company and its policies displayed by employes in making explanations of matters outside their special skills and their belief in the company, the manner in which we deal with city, county or state governments; the care we take of the property of others—their trees, their view, their streets and highways.

"These little things give the public and telephone users the bases for measuring our efficiency. And they do more than that if done well—they make our character and give us our reputation. They make a joy of the job to each of those who do them. There is so much more fun doing a job which is pleasing to other people than in doing one which is not."

The corporate image which we hear so much about is nothing more than the mirrored reflection of what the company really is.

Must Expose the Good

Public relations employs no alchemy which can turn something bad into something good. You can spray perfume on a pile of garbage, but its intrinsic fragrance cannot be subdued for very long. The proper function of public relations is to take something which is good and expose it to public view so that others will become aware of its goodness. It merely shines a spotlight and, if that spotlight is illuminating a garbage heap, it will still look like a garbage heap.

The foundation of a good public relations program must be to insure that the company's character can stand the closest scrutiny. What good character and a pleasing personality are to an individual, public relations is to a company. If he is to mold the company's good-will, the public relations practitioner must serve as his client's public conscience. He must counsel and guide the company to help it to become a good citizen, a good employer, and a good public servant.

The spectrum of activities which a competent PR man will conceive and develop in order to project his client favorably is almost limitless. It ranges from sending flowers to a sick employe in the hospital, to financing the construction of that hospital as a gift to the community.

Scholarships Good

Some companies have established scholarship programs for engineers. This is altruism with a selfish interest. Not only does it help a worthy student complete his education, but it also helps to attract brilliant minds to the telephone industry. The program is no less admirable because the company and the industry *benefit* from it. Many individuals seem to think that public relations is charity completely divorced from the profit motive; that it is a

The Author

Mr. Hogan is president of Larry Hogan Associates, public relations firm in Washington, D. C., which he founded in 1959.

Mr. Hogan received Bachelor of Arts (1949) and Bachelor of Laws (1954) degrees from Georgetown University, and conducted graduate study at San Francisco State College and American University. He has been admitted to the Bar of the District of Columbia.

His background includes experience in newspaper work, investigative activity, radio and television, free lance writing and magazine editing, as well as in public relations. He served with the Federal Bureau of Investigation from 1948 to 1958.

For 18 months, he served with the Chamber of Commerce of the United States, representing the businessman's viewpoint before Congress and federal agencies, drafting testimony for presentation before congressional hearings, writing speeches, press releases, pamphlets and articles, conducting liaison with trade associations, etc.

At the present time, in addition to the operations of Larry Hogan Associates, Mr. Hogan serves on the faculty of the University of Maryland teaching "Public Relations" and "Law of the Press," and lectures at the Institutes for Organization Management at Michigan State University and Syracuse University.

He is active in the affairs of the Public Relations Society of America, District of Columbia Bar Association, Society of Former Special Agents of the FBI, Washington Board of Trade, Georgetown University Alumni Association, Washington Trade Association Executives and other civic and professional organizations.

magnanimous activity. The prime motivation of business is to make a profit and this requires no apology. All aspects of a company's operations, including public relations, should be geared to this objective.

Although you won't be able to measure it accurately, sound public relations activities will increase profits.

To promote business, a company will uplift the standard of living in a community, will assist in charity activities and civic projects, will develop high employe morale, and will render outstanding service to the community in innumerable ways. These activities are good *per se*. They do not become tainted because they are based on the profit motive.

A Specific Example

A public relations program conducted by a mail order company illustrates the compatibility of the profit motive with the public welfare.

This company opened a new store in a certain rural area on the prospects that its economy would continue to prosper. Shortly after the store opened, two consecutive crop failures plunged the area into a serious state of economic depression. As a consequence, the store's business fell off drastically.

This company could have closed the store and moved out, thereby aggravating the plight of the community. It did not do this.

Under its public relations program, the company brought in agricultural experts to study the soil and climatic conditions to explore ways of improving the farmers' situation. These experts came up with a startling discovery: The area was ideally suited for the growing of wine grapes. Grapes had never been grown there before and the farmers were understandably skeptical.

The company's PR machinery then slipped into high gear. An educational program was launched to "sell" the farmers on the idea of converting to the new crop. The company furnished shoots without charge and retained experts to supervise their planting and cultivation.

The result: The area blossomed forth into a rich wine country. The farmers prospered, the economy of the area prospered and the company's store prospered. A dramatic success from an imaginative use of public relations techniques. Altruism with a selfish interest.

Report to Top Management

As this story indicates, public relations entails more than writing press releases. The company which has a man on its staff with the title, "Director of Public Relations," who does no more than seek publicity for the company, does not have a public relations program. In many companies, the PR man is under the supervision of the sales manager or even the advertising manager. This is a serious underestimation of the importance of public relations.

Public relations is the prime responsibility of top management and the PR director, or outside counseling firm, should report directly to the company's chief executive. It goes without saying, however, that the PR man selected for this job must measure up to these broad responsibilities. A man whose knowledge of the field ends with the grinding out of publicity releases will not be qualified to serve as the keeper of the corporate conscience.

The store of public relations knowledge and technology is now in a fairly advanced state and the company which fails to take advantage of this fact is selling itself short.

Techniques Important

Having a good PR program is not enough. Effective techniques must be employed to tell the public about a company's activities.

Because prestige is built slowly, one favorable impression upon another, public relations must be a long-range, all-encompassing process. It can't be turned on and off as an electric switch. Every company must sell itself constantly.

A utility cannot afford to become lulled into a false sense of security because of its exclusive franchise status. There will always be pressures to socialize utilities, and the surest way to help nurture these seeds is to give consumers a shoddy caliber of service. If consumers can't get the service they want under the free enterprise system, they will turn to the government to fill the gap.

A high type of service is essential to continued public support, but efficient operation is not enough to stay the threat of public ownership. A comprehensive program is needed to humanize the corporate person and create a friendly atmosphere to insure public favor.

The public wants to find in corporate persons the same admirable qualities it looks for in natural persons. If a neighbor beats his wife, comes home drunk four times a week, lets his children run the streets ill-fed and ill-clothed, it's not likely that he'll be elected mayor. It is likely that he'll be brought into court to insure that he meets his social and moral responsibilities.

PR Vital to Utilities

What the state has created, the state can destroy. Favorable public opinion, then, has an influence, not only on the volume of business which a company does, but often, particularly in the case of utilities, it holds the power of life and death.

People, generally, have a very unfavorable attitude toward utilities because they feel utilities sell something essential to life and are in a position to withhold the necessities of life, because they feel the consumer is deprived of freedom of choice since utilities have exclusive franchises and because they feel utilities merely supply natural phenomena without adding anything to it. As a result of these attitudes, unreasonable though they may be, the consumer thinks that the utility *owes* him good service and low rates.

During the recent recession, one utility company decided upon an effective method of explaining and interpreting profits (which should be the aim of every company operating under our free enterprise system) for the community in which it does business.

During the week prior to the issuance of quarterly dividend checks, the company released a statement to the press which commented, "One source of that green stuff everyone is looking for these days will be tapped on Saturday." The release reported that nearly 64,000 persons in the area would receive dividend checks averaging $75. The story pointed out that every three months at dividend time, business activity is stimulated by the "wages paid shareholders for the use of their money."

A newspaper in the area carried the story further by interviewing typical dividend recipients asking what they intended to do with the money:

A barber: "These dividend checks through the years helped me to buy a house."

A tree-trimmer working for the county road commission: "I'm going to use it to help buy an engagement ring."

A country club chef: "With seven children, there's always something to buy."

The utility company was quoted regarding the economic principle involved: "Stocks and dividends have become very important to our American way of life. The money invested by shareowners creates jobs and increases our capacity to make goods and provide services. Dividends serve us by stimulating further economic activity. It is certainly true to say that investments and dividends help not only the

(Continued on page 47)

MIND YOUR OWN BUSINESS

A personal file of stimulating ideas; little known facts and daily problem solvers

By Ted Pollock

THE ART OF "BUYMANSHIP." If you're only average, you will spend *at least* a quarter of a million dollars in your lifetime—on the job and off. Whether you will get a quarter of a million dollars' worth of value for your money, however, depends on how astute a buyer you are. An exciting new purchasing concept—"Value Analysis"—is being employed by many top firms to cut costs to the bone. And the beauty of it is that it is just as applicable to consumer purchases as it is to business or professional expenditures. No matter *what* you are considering buying, ask yourself these seven "Value Analysis" questions before you reach for your checkbook:

(1) *Does its use contribute value?* For example, does your automobile *require* premium gas—or was it built to take regular fuel?

(2) *Is its cost proportionate to its usefulness?* Would a less expensive material, method or product do the job?

(3) *Does it need all of its features?* Thus, unless you are a pro, you probably don't need a camera that takes pictures at 1/1000 of a second. Why pay for it?

(4) *Is there anything better for the intended use?* Something lighter — heavier — larger — smaller — rounder — longer — shorter — wider — narrower? A synthetic material? Two other things in combination? Think!

(5) *What are the "fringe benefits" of dealing with this vendor?* Is he reliable? Does he have a repair department? Is emergency service available? Will he deliver promptly? Does he keep his promises? Does he offer suitable credit arrangements?

(6) *Can I buy it for less elsewhere?* Check several sources before committing yourself. You may be pleasantly surprised.

(7) *Is this the best time to buy?* Might this product be on sale in the near future? Is new competition in the field apt to drive prices down? Is there a time of year when this product or service is traditionally less expensive? Will new models be introduced soon, obsoleting this one?

Take the time to ask yourself these questions before you buy, for in this case, "Time *is* money"—yours!

FIVE AIDS TO CONCENTRATION

Among life's major frustrations are the well-intentioned interruptions of your work by friends, relatives and co-workers. Some hints on making yourself less accessible when you really must:

- **Try rearranging your lunch hour so that you are on your job when your co-workers are out eating. Sixty blissful minutes of golden silence!**
- **Shift your furniture. You may look too inviting in your present set-up. Try facing the wall or working with your back toward others.**
- **Be firm and let your colleagues, friends and family know that at certain hours of the day you're strictly "off limits."**
- **Find an inaccessible place to work—an attic room, an empty office, the public library. (Humorist Jean Kerr, mother of five, wrote her best-selling "Please Don't Eat The Daisies" in the front seat of the family car!)**
- **Let your wife or secretary screen telephone calls, intercepting those of little importance.**

HOW TO "UNMAIL" A LETTER. You may only have to get a mailed letter back once or twice in your entire lifetime, but when you do, you'd probably give your right arm for the requisite know-how. Save your arm! Here's the low-down:

If you act quickly—before your letter has a chance to be delivered—your chances of recovery are excellent. Take along an addressed envelope that duplicates the one you mailed, as well as suitable identification (preferably, your driver's license). Go to the post office in the same zone as the mailbox in which you dropped your letter if you've addressed it locally, or to the central post office in your city if you've addressed the letter for out of town. At the post office, fill out and submit Withdrawal Form 1509 (Form 3855 for registered mail).

Providing you've acted promptly and the letter hasn't left the post office, your chances of retrieving a locally addressed letter on the spot are good. If the letter has already gone out, the station superintendent will call the branch post office to which your letter was mailed and ask for its return. Letters headed for out-of-town take longer to recover. Your central post office will wire or telephone the addressee's post office and ask for the letter to be returned. In any event, you must call for your letter *in person* after your post office informs you of its arrival.

There is no charge for the return of first-class mail. But return postage is charged for second, third and fourth-

class mail that is returned from another city. You must also pay for any telegrams or telephone calls used to stop delivery.

MULTIPLICATION SHORT CUT. "Figuring" is not only the basis of all business; it is an essential skill in the successful management of your own affairs. Here is a way to multiply large numbers more swiftly than you probably ever thought possible. It's called "The Complement Method of Multiplying."

Example: 92 × 96 = 8,832

Rule: The *complement* of a number is the figure required to bring it up to 100 or some multiple of 100. Thus, 8 is the complement of 92 and 4 is the complement of 96.

(a) Multiply the complements of the two numbers (8 × 4 = 32), and (b) write down the product (32) for the last two digits of your answer; (c) subtract either complement from the other number (92 — 4 = 88 or 96 — 8 = 88), and (d) write down the remainder (88) for the first two digits of your answer. Complete answer: 8,832.

If you are dealing with larger numbers, follow the same procedure with this important difference: Double your answer in step (d) if you are working with numbers between 100 and 200; triple your answer in step (d) if you are working with numbers between 200 and 300; quadruple your answer in step (d) if you are working with numbers between 300 and 400 and so on.

Example: 175 × 197 = 34,475

Rule: (a) Multiply the two complements (25 × 3 = 75), and (b) write down the product (75) for the last two digits of your answer; (c) subtract either complement from the other number (175 — 3 = 172 or 197 — 25 = 172); (d) double this number because you are working with numbers between 100 and 200 (172 × 2 = 344), and (e) write down the product (344) as the first three digits of your answer. Complete answer: 34,475.

IS YOUR ETIQUETTE UP-TO-DATE? There have been some changes since Emily Post laid down the laws of genteel behavior. Did you know that it is now perfectly proper to keep your hat on in the presence of ladies in a crowded elevator — issue invitations to an informal party by writing the occasion, the date and the time across the top of your personal cards and mailing them out — walk on the inside instead of street-side of a lady companion if to do otherwise means converting a simple stroll into a ballet in which you are forever running around end just to get into position — keep your seat in a crowded public conveyance except for elderly women, pregnant women or women obviously overburdened with packages — wear bow ties to business?

DETERMINING GASOLINE MILEAGE

Ever wonder just how many miles you get to the gallon? Here's a simple way to find out: Have your gas tank filled to almost overflowing and record the odometer mileage. When you've put another 200 miles on it, fill the tank again to the same spot and divide the number of gallons bought into 200. There you are! Caution: If yours is a new car, don't test for mileage for the first 2,000 miles. Reason: It takes that long for rings and other moving parts to get correctly "seated."

COMPLAINTS — HOW TO TURN THEM INTO OPPORTUNITIES. All of us run into some complaints. But whether these mark the end or the beginning of a beautiful friendship depends on how we handle them. According to top public relations authorities, there are four distinct steps in soothing *anybody's* ruffled feathers:

(1) *Get there fast.* A man with a gripe is in no mood to be reasonable. Not at first, anyway. Above all, he wants his grievance heard—as fast as possible. At the first hint of trouble, therefore, make it a point to reach the complainer quickly. If a personal call isn't possible, telephone. But "get there" —fast. Immediately, you disarm him by demonstrating that you take his grievance seriously.

(2) *Listen.* Once there, prove you are interested. Display sincere concern. Get all the facts. Speak little until you're certain he has gotten everything off his chest. A talked-out individual is the easiest to deal with.

(3) *Sum up,* in your own words, the essence of his complaint. This serves two purposes: The complainer is flattered that you have followed his arguments so closely. And you achieve the first agreement—on just what the issue is.

(4) *Offer redress.* Tell him — precisely, concretely, honestly—*what* you will do to remedy the situation—and *when* and *how.* If you cannot come through with an immediate answer, offer to take it up with your superiors or anyone else involved in the adjustment and to have the answer within a few days. Whenever possible, give him a little more than he expects or demands by way of satisfaction. And, having explained your remedy, ask: "Is that acceptable to you?" Encourage his comments on the fairness of your plan, for this will indicate your own confidence in the justice of your proposal and prove that your only interest is his total satisfaction.

HAVE A NICE TRIP. Or will you? It depends on just how many problems you anticipate—and solve—*before* you take off for your summer vacation. This check list can save you grief, gripes and groans.

Are you inviting theft? Before you close your house, take some elementary precautions. Professional burglars look for such clues to absenteeism as stuffed mailboxes, a lonesome cat, newspapers on the lawn. So hide the evidence. Arrange for a neighbor to pick up your mail. Suspend such deliveries as milk, bread, papers. Leave pets with friends. Don't draw all the shades or blinds. Don't tell your vacation plans to the society editor of your local newspaper —save the publicity for your return.

Will you return with what you took? No forgotten cameras, robes or cuff links for *you*—providing you take inventory on paper of what you pack, tape the list inside your valise, then check off each item as you pack for the return trip.

Is your wardrobe reasonable? If it isn't, you'll spend a good part of your trip huffing, puffing, cussing and — if traveling by plane — shelling out for excess baggage weight. Aside from specialized sports clothes and sporting gear, most men can get along with two suits, a sports jacket, one pair of slacks, sweater, a water-repellant topcoat or raincoat, two pairs of shoes and a pair of loafers. Drip-dry shirts, socks and underwear will keep things down to a practical minimum.

Will you go back to work refreshed? Sure—if you make up your mind not to overdo. Act your age! don't expect to keep up with the kids in the swimming, handball or tennis departments. Take the sun in easy stages—a few minutes the first day, a little more the second, and so on. Learn to spot poison ivy—the leaves are green and glossy in summer and *always grow in clusters of three.* Remember the old jingle, "Leaflets three, let it be."

GOLF CLUB CARE. Here's a little-known trick used by professionals in the game. Rub new clubs with a little shoe polish and they'll retain their original luster. A thin coating of vaseline rubbed over metal parts will prevent rusting.

The Plant Man's NOTEBOOK

By RAY BLAIN, Technical Editorial Director

THE WRITER witnessed a most interesting demonstration at Fort Myer, Va., of three new long-range, high-powered, emergency communication systems recently delivered to the U. S. Army Signal Corps.

These systems, which are air transportable, are designed for mobile use in isolated areas.

The three systems have ranges of 2,500, 5,000 and 7,000 miles, respectively. Either of the systems may be installed in less than four hours as compared to the months required for the installation of fixed stations with comparable power and range.

These systems are particularly valuable to the Strategic Army Corps because of their capability of transmitting voice or teletype messages over the system on a world-wide basis. They are also capable of by-passing fixed Army communication system stations which may be inoperative and communicating directly with the Pentagon. They can also tie in with bases placed in isolated areas or areas where normal communications have been disrupted, such as occurred in the Chilean earthquake.

One unit, designated the AN/TSC-18 is considered the world's most powerful transportable communications equipment. Its 7,000-mile range provides simultaneous transmission and reception on three telephone and 16 teletype channels. Three of these units were purchased by the Army at a cost of $403,000 each. These units may be airlifted in three C-12 aircraft.

The 40-kw HF sideband transmitter for this unit is housed in a 30-foot semi-trailer. An expandable wall increases the width of the van for ease of maintenance and operation.

The second system, the AN/TSC-19, provides three telephone and 16 teletype channels and can operate over a distance of 5,000 miles. It may be transported in two C-124 aircraft. One of these units was purchased by the Army at a cost of $375,000.

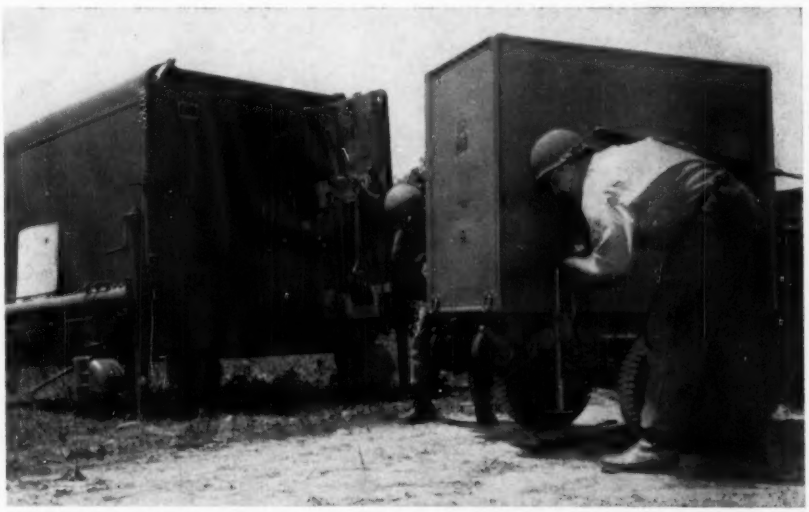
The 10-kw transmitter and other equipment used with this unit are housed in four small shelters.

The third system, the AN/TSC-20 provides one telephone and four teletype channels and has an operating range up to 2,500 miles. This system can be airlifted by C-119 aircraft or by helicopter. Three of these systems were purchased by the Army at a cost of $120,000 each. A single shelter houses all of the terminal equipment used with this unit.

Maximum use is made of each system's transmitter by independent sideband operation. This mode permits simultaneous transmission of voice and teletype intelligence on both sidebands. The 6-kc upper and lower sidebands are each divided into two 3-kc voice channels. In typical operation, two of the four channels are used for voice traffic; the third, as an engineering order wire, and the fourth supplies facilities for 16 teletype channels.

Two rhombic antennas are used for space diversity reception. In the receiver terminal, the two 12-kc-wide signals are divided into eight 3-kc channels and relayed over UHF link to the facilities control center. Two of these channels are required for teletype diversity operation. Of the remaining six, three serve the voice circuits and three are used for back up.

All three systems have a facsimile capability which enables them to transmit photographs. The systems all include antennas, power generators, standby equipment, spare parts and tools for operation and maintenance. The shelters and trailers are lighted, heated, air-conditioned, and human-engineered to insure optimum operating



Signal Corps men prepare to move out one of the two subscriber stations of the AN/TSC-20. This system is one of three in the Army's newest family of long-range, air transportable communication systems. The AN/TSC-18, 19 and 20 provide voice and teletype facilities over ranges of 7000, 5000 and 2500 miles respectively, and tie into the Army's STARCOM network.—U. S. Army Photo

conditions for personnel and equipment.

This versatile new "family" of communications systems was designed by and built under the supervision of the United States Army Signal Corps by Adler Electronics, Inc., of New Rochelle, N. Y. To this firm must be assigned a large share of the credit for the excellence of these equipments.

•

We've received the following interesting letter from Norman Gibbons, president of the Purdy (Mo.) Telephone Co., Inc.:

"In answer to your recent article about installing seat belts on company vehicles, we have only three company vehicles, but we have installed seat belts for both driver and one passenger in all three. I might add that I have had seat belts installed in my personal car since 1955.

"I am a firm believer in the advantage of having these belts. Actually, my friends would probably tell you I became fanatical at times.

"It seems there are more and more vehicles with belts being installed, but there still seems to be an actual lack of use by the driver or passenger.

"For those who want supporting facts, I would recommend reading House Report No. 1275."

•

In the old days when poles were installed along streets, they had to be protected from damage by the hubs of passing buggies and wagons. This was accomplished by wrapping the poles from about a foot above the ground level to about 4 feet above ground with metal strap or steel wire. The strap iron was nailed in place and the wire stapled. A gap was left between the wraps so that linemen's climbers could contact wood.

We notice that line hardware suppliers now catalog galvanized pole guards. These are flat plates 16 inches x 18⅛ inches drilled for ½-inch lag screws.

We cannot help wondering how and why these pole guards are used in this day and age. If an automobile hits a pole, a guard of this type will not provide much protection.

"Cross Talk"

It is claimed that the majority of fatal automobile accidents are not caused by reckless or drunken drivers, but by ordinary decent citizens who haven't mastered the art of defensive driving.

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The present-day dime is actually a dollar with the taxes taken out.

Plant Man's QUIZ

By RAY BLAIN, Technical Editorial Director

Q. We have the problem of adding guys to existing anchors on a jointly used pole line. The anchor rods will not accommodate a second guy. Can you suggest an answer to our problem?

A. The addition of an auxiliary anchor rod eye appears to be a simple solution to your problem. The second eye is added to the existing anchor by the use of U-bolts and square nuts. This device can be purchased from any telephone supplier who handles pole hardware.

•

Q. Can you advise us how we may fabricate vibration dampers for use on open wire?

A. We would suggest that you not attempt local fabrication. Preformed plastic vibration dampers may be purchased from your telephone supply house at a nominal cost.

•

Q. We have difficulty in maintaining electric soldering irons on mainframes as workmen forget to disconnect them when they are not to be used for long periods of time. Is there some type of automatic disconnect device that can be used to correct this difficulty?

A. Perhaps a timing device could be used, but it is doubtful that it would correct all of your difficulty. It is suggested that you consider using a temperature regulating stand with your mainframe soldering irons. This is an automatic device for regulating and controlling the tip temperature of an electric soldering iron while the tip is connected to current and idle for long periods. It controls the temperature of any electric soldering iron and prevents overheating.

•

Q. Can you advise us where we could obtain a good book on stereophonic sound?

A. An excellent book titled: "Stereophonic Sound" is authored by Norman H. Crowhurst. This soft cover book of 144 pages may be purchased from TELEPHONY for $2.90.

Originally written in the "pioneer" phase of stereo, this second edition reflects the most advanced state of the stereo art. Comprehensive information has been included on the 45/45 disc, the now accepted standard. The latest information available on stereo tape and playback units is thoroughly discussed. One entirely new chapter helps the reader evaluate conflicting claims of component performance or superiority—explains the possibilities and pitfalls of conversion—and enables him to select a system best suited to his individual listening needs.

•

Q. Is it considered necessary to maintain plastic-insulated and jacketed cable under pressure?

A. It is generally true that important trunk and toll cables should be maintained under pressure even when they are plastic-insulated and jacketed. It is likewise true that water entering a plastic cable will not cause as severe trouble as in a paper cable. Also, when water enters a fault in a plastic sheath it will flow and accumulate at a low point. However, if the plastic insulation on the conductors has defects such as pin holes, leakage and transmission losses will result. Constant pressure on a cable will usually prevent water from entering the sheath.

•

Q. Will it be possible to use the new splicer enclosures on cables that are equipped with built-in messenger strand?

A. There is a splice enclosure now available which is designed for use with the figure "8"-type plastic cable. This unit has a flexible, one-piece neoprene cover that overlaps both the supporting strand and the cable, and fastens to a molded neoprene base strip between the two metal stiffening bars that also serve as a mounting base for terminals and load coils.

saves you money— to purchase, to install and to operate

ACHIEVERFONE

You can buy 30 AChieverfones for the cost of 20 competitive mobile phones. In fact, AChieverfone is built to save you money! This is true from the initial purchase and installation in your customers' vehicles through many years of reliable operation.

AChieverfone's low cost comes from its two simply constructed basic units: the control head and the R-T unit. The control head, which contains the handset holder, junction box, and channel selector, uses standard radio components and hardware. The R-T unit is low in cost because modern assembly techniques, and efficient, straightforward design have been used. In addition, the R-T unit's decoder uses only one-third the number of parts of other transistorized models.

These two units give you and your customers the most economical mobile radio phone on the market! No other common carrier MTS system can match AChieverfone's reliability, efficiency and low price. Examine AChieverfone's many advantages. Write or call AC today.

SPECIFICATIONS—FCC Type Accepted

Transmitter: 144-174 Mc, 4-Channel
RF output: 22.5 watts into 52 ohm load

Receiver: 144-174 Mc, 4-Channel
Wide Band (60kc) or Narrow Band (30kc) models available (Bands quickly converted to Narrow or Wide by substituting IF filter)

Frequency Stability: within 0.0005%

Selective Signaling: 51,000 five-digit (compatible, 2-tone, sequential) codes available

Size: Receiver-Transmitter, 21⅛" x 8⅜" x 6¼"

Weight: 37.25 pounds, including receiver-transmitter, control head and interconnecting cable

AC Spark Plug *The Electronics Division of General Motors • Box 622 • Milwaukee 1, Wis. • Telephone: BRoadway 3-1120*

Demands of the Future

In Pennsylvania Spotlight

By Dan S. Fargo

"OUR INDUSTRY has made great strides in the past but much remains to be done in the future. As has been pointed out many times our telephone industry has become the communications industry, which has many more facets and ramifications than the 'old' telephone industry. New skills, new techniques, new marketing have become necessary. The world is moving fast, we cannot stand still; we must keep up the pace."

With that charge from Willard M. Gottschall of Lansford, association president, the general sessions of the Pennsylvania Independent Telephone Association convention (June 5, 6 and 7) got underway at Pocono Manor.

Mr. Gottschall pointed out the necessity of telephone people developing their potentials to the utmost; also the desirability of new employes having the potential to cope with the problems and situations which will face the industry in the future.

He added: "In order to continue the industry policy of providing the best possible service at the lowest possible rates while preserving our financial integrity, it is necessary that we continue to increase our efficiencies and know-how. There are new and broader fields waiting for exploration and development and many challenges will be presented to the communication engineers and scientists in the not-too-distant future."

Turning his attention to the joint efforts of Independent and Bell companies to provide the people of this country with the best telephone service, Mr. Gottschall stated:

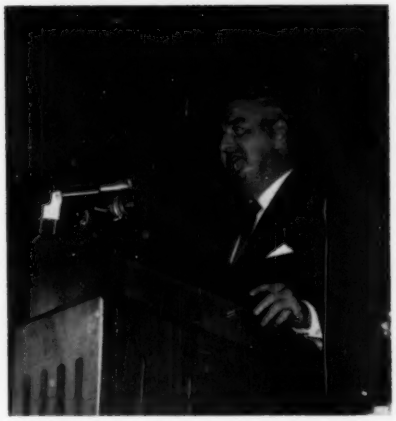
"In many ways we act as partners in this task, requiring much cooperation and good faith between us. We must understand their problems and they ours. Generally speaking we believe this is done, but on some occasions it has fallen short of what we anticipated.

"We firmly believe that our problems should always be worked out between ourselves, without bringing the government, in any form, into the picture. We should not need a regulatory body to settle the division of revenues for toll and other special services which are becoming so popular.

"For over 30 years we have had very little worry about the Bell company's invasion of our territories, or loss of our companies or their well being from this source.

"However, we are becoming increas-

Pennsylvania Independent Telephone Association 1961-62 officers and directors. Left to right, seated: J. Hiram Swope, Alvin C. Glick, George A. Ruhl, directors; Willard M. Gottschall, retiring president; George M. Keefer, president; and Beryl V. Cobler, director. Standing: Albert C. Herbert, executive vice president; Harold G. Payne, Lester R. Thurston, S. E. Phillips, C. E. McCormick, A. J. Sordoni Jr. and Ralph B. Scott, directors.



Four Pennsylvania convention speakers. Left to right above: Frank D. Reese, president of Automatic Electric Laboratories, Inc.; Robert W. Anthony, commissioner, Pennsylvania Public Utility Commission, and Francis X. Welch, editor, *Public Utilities Fortnightly*, and Washington editor of TELEPHONY. At right: Wilfred D. Gillen, president, Bell Telephone Co. of Pennsylvania.

ingly concerned about the position our companies are finding themselves in with regard to our local exchange rates in comparison with similar Bell exchanges. While this situation is often easily explained to someone who understands the difference in population density and other factors, it is increasingly difficult to make subscribers willing to pay the higher rates. More and more people are asking why they can't have Bell company service."

Mr. Gottschall went on: "We believe that our problem starts with the division of toll revenues. Our investment per telephone throughout the state is now higher than the Bell company's, including their intrastate toll network plant cost. But our revenues per telephone are only 70 per cent as great, although our local rates now are generally higher.

"Unfortunately, present methods of toll settlements serve to aggravate our problem when it comes to elimination of short-haul toll. Such things as extended area service, which should be promoted by both companies when it appears to serve the subscribers best, often work a hardship on us by reducing our toll settlement revenue far more than we can increase local rates. At the same time it may be beneficial to the Bell company.

"Other special services, such as foreign exchange service and tie lines, are also threats to our toll revenue as we have few customers to absorb these losses compared to the millions in the Bell System. And so we get into the distasteful position of resisting services which the Bell is promoting and the customer wants. This is a problem which must be worked out together.

"Possibly our philosophy of toll settlements, which in effect says that the toll business belongs to the Bell, may have to be changed. We may have to ask that the entire concept of toll revenues, toll handling, toll revenue division, be reexamined. We may have to ask that savings due to efficiency, mechanization, etc. redound to the benefit of the company effecting such savings.

"The efforts of your state and national associations are increasingly directed toward these problems. They deserve the support of all of us. We are always ready at either level to sit down with our Bell friends and discuss these matters. We feel sure that they are ready, too. We must always bear in mind that the Bell and Independent company systems complement rather than supplement each other. They are both needed. They must have harmonious relations and must have confidence in the integrity of each other."

In opening his talk, "The Crucial Years for Our Industry," Wilfred D. Gillen, president of the Bell Telephone Co. of Pennsylvania, reflected:

"Industry conventions such as this, I think, are most valuable in that they give us pause from the distractions of the day so that we may ponder our purposes, examine in perspective the successes and failures of our past, and together give thoughtful heed to the future."

Mr. Gillen stated that in Pennsylvania last year Bell-Independent interchanged toll messages were more than 50 per cent greater than in 1953. If the industry could count on such growth trends continuing, the future would be bright, he said; but, the realities of the communication world don't bear out such a comfortable prospect. He explained:

"The first reality is one about which you as Pennsylvanians hardly need reminding—that the state has not been growing as rapidly as the nation in population, employment, and income. . . .

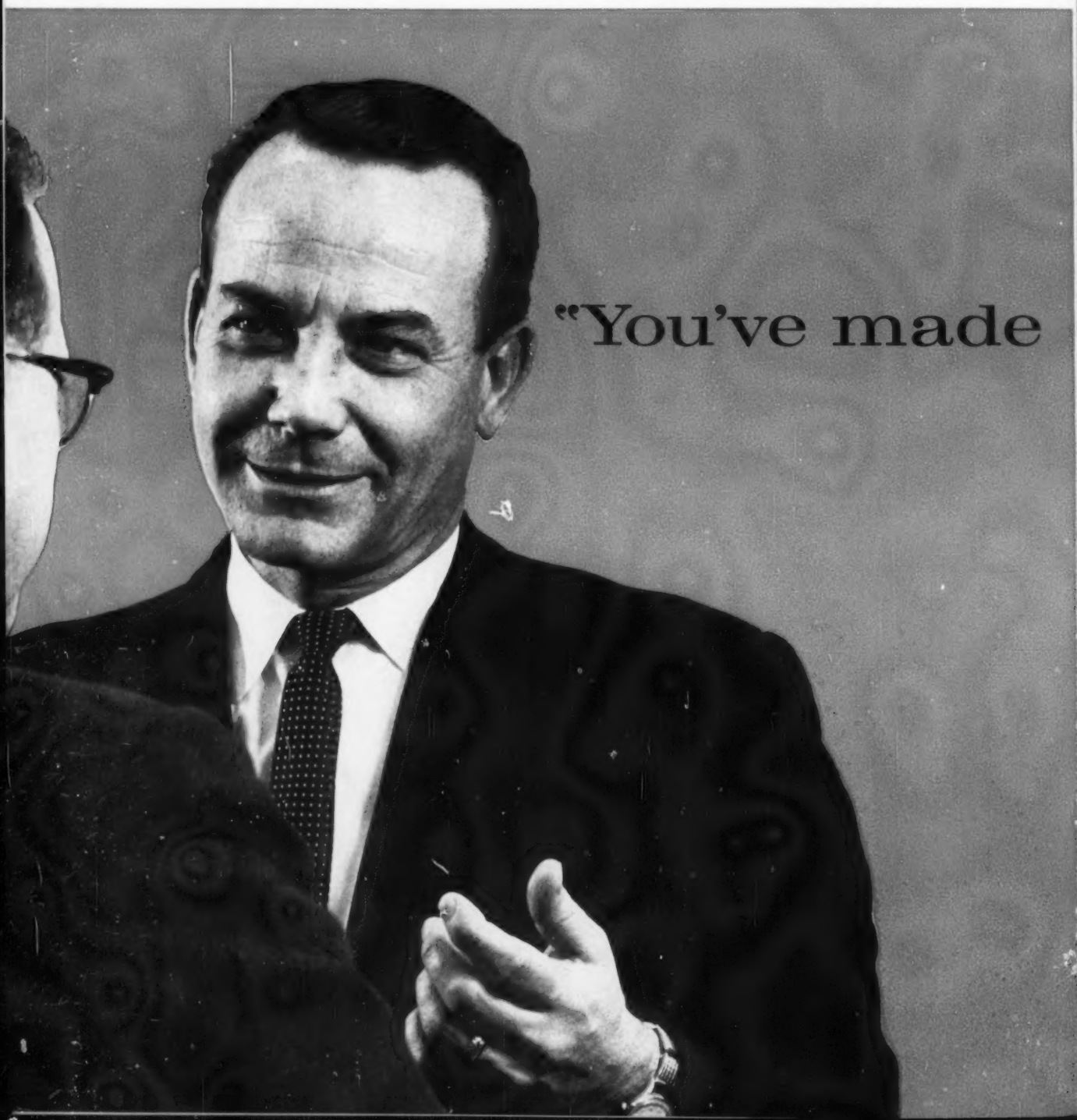
"Our main telephone development is now so high that it is approaching the saturation point with the result that more than ever we are dependent upon new family and business formation as a source for increasing the number of our customers. But this will not be the fertile source we would like in view of the state's diminishing population growth.

"The alternative is that for growth in local and toll service, we must cultivate more strenuously the existing market—selling more of our services to existing customers — more extensions, more regrades, more auxiliary services, more of everything, and all of which, of course, encourages toll usage."

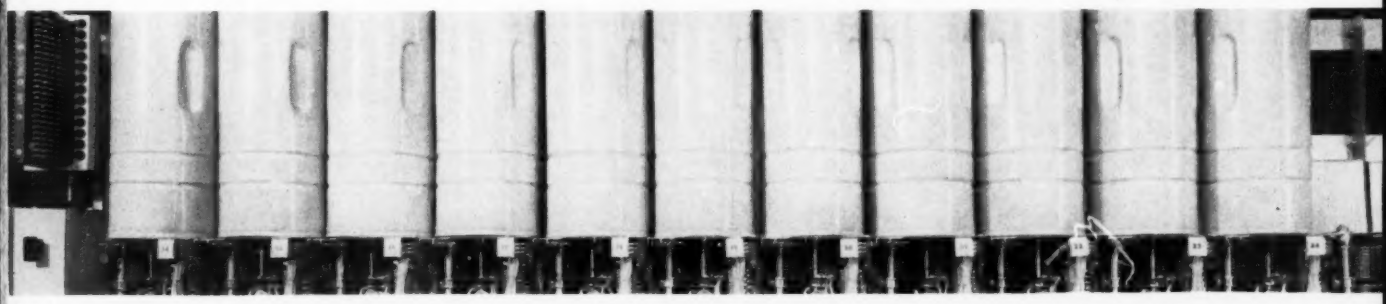
Mr. Gillen went on: "The second reality is that of competition. This was annoying in the past but not too serious. Now the threat is grave indeed, for the competition is not nibbling at the fringes of our business, but eating into its core. The growth in privately

(Continued on page 34)

- 2L5N numbering
- Intertoll dialing with the latest supervisory standards
- Easy adaptation to Direct Distance Dialing
- Economical expansion with simple jack-in equipment
- Easy adaptation to automatic toll ticketing—and Strowger ticketing equipment works directly into accounting machines without converters
- Direct dial control—no delays for "common" equipment
- Most modern, fastest information boards



- Automatic Time Announcing
- Automatic Weather Reporting
- Automatic Intercept Announcing
- Banks and quick-change wipers in plain view—easy to see and reach
- Low maintenance; fast call tracing
- Simplified checking—each switch and its control relays mounted as a unit
- Your choice of terminal-per-station or terminal-per-line operation
- Either frequency-per-group or frequency-per-terminal, with terminal-per-station operation
- Trunk repeaters for carrier, microwave, physical, or composite circuits
- Full-feature toll boards—cord-type or cordless
- Fire-reporting systems—manual and automatic
- Quick, easy testing of lines for leaks, grounds, or foreign battery, with the Automatic Line Insulation Routiner
- Remote testing of unattended offices
- Fully automatic alarm systems within office and at remote points
- "Four-wire" toll switching
- Toll restriction for P-B-X and P-A-B-X systems



the best decision, Harry—

Strowger will meet your future needs!"

Wayne Leonard* is a funny guy. He insists that he doesn't sell dial equipment. Wayne says that he sells the solution to future communications needs. And if you think that's odd, just listen to the way that he sells our switching equipment...

First, Wayne urges the customer to be cautious. He reminds the telephone man that the system installed today may have to trunk into different types of equipment and provide new services tomorrow. Then comes the clincher—he proves that Strowger is more than a match for the future. How? By simply explaining the many modern features that Strowger can provide (listed above).

Are you planning a dial conversion? Then get in touch with us. We'll send *your* AE representative in to help you solve your dial conversion problems. He can give you the complete Strowger story. And, he can provide you with information on how to finance Strowger dial equipment. To contact your AE representative, just write Automatic Electric Sales Corporation, Northlake, Illinois. In Canada, Automatic Electric Sales (Canada) Ltd., 185 Bartley Drive, Toronto 16.

**District Manager, North Central District, Automatic Electric Sales Corporation*

AUTOMATIC ELECTRIC

Subsidiary of

GENERAL TELEPHONE & ELECTRONICS

GENERAL SYSTEM

owned microwave systems exemplifies this.

"The Electronics Industries Association forecasts that, under the FCC ruling opening the radio spectrum above 890 megacycles to practically all comers, there will be 10,000 privately owned systems in service by 1966 and double that number 10 years later.

"Such privately owned point-to-point radio systems can be used for telephone, teletypewriter, data transmission, and other types of service now provided throughout the country by the telephone industry.

"It is obvious, of course, that because of the substantial costs involved, such private systems would be established generally by the larger users of our services, and that to justify the costs as much traffic as possible would be diverted from our facilities to the privately owned.

"The telephone industry, Independent and Bell, then would stand to lose many millions of dollars because of such diverted traffic if the forecasts I cited turn out to be accurate. Their accuracy, of course, depends on us—if we have the foresight and willingness to meet such competition through the introduction of such services as TELPAK, I think we can make these forecasts look bad—but we, Independent and Bell, are going to have to work at it, and the time to start is now."

Mr. Gillen also took note of the competition from companies not now in the communications field who are attempting to invade it through the means of space communications. Then there are, he said, the more earthly competitive services, such as home and office intercommunication systems and others similar to the telephone industry offerings, which are encountered in increasing numbers, and each of which diminishes the telephone companies' revenue potentials, both local and toll.

These and other realities, he said, call for telephone people to revolutionize their thinking about the industry, and keep in mind that:

"Research and development have placed in our hand the means to make communications a better and harder-working servant of the public, capable of accelerating the pace of the economy, of increasing business efficiency, and lightening labors in the shop or home.

"It is our responsibility to provide a complete communications service to the public—not just telephone service—lest we make the mistake that some other industries have by taking an unimaginative view of their role as an industry, which has cost them so dearly because it accorded the competition the opportunity to move in.

"No matter how flexible we are today and how fast we move in meeting customer requirements, we will have to be more flexible and move faster tomorrow, because each day these requirements are becoming more complicated and involved."

Newly elected officers and directors of the Keystone State Chapter of the Independent Telephone Pioneer Association are (left to right): H. W. Meyer, president; Mrs. Mary Hadlow, secretary; L. E. Grandy, outgoing president and director; Mrs. Bertha B. Blair, treasurer; M. E. Kuchta, outgoing director; W. J. Schilling, director, and Allan W. Ryder, director.

Dr. G. Herbert True of South Bend, Ind., brought out in his "The Creative Challenges of the Sixties," that in the years ahead it will be wise every so often to ask oneself: "What have I done different lately to justify my own business survival?" He stated, in a variation on a famous saying on freedom, that every generation must re-earn its market every year.

Dr. True emphasized that by 1965 the man with mediocre abilities will have nothing to sell—and yet, God gave all of us talents. So, he urged his listeners, ask yourself: "What can I do to release the talents of those under me, rather than control them?" He said middle management has been in too much of a rut, making records without knowing why and without being able to correct mistakes or things gone wrong. The importance of the morale-builder and the problem-solver in an organization is growing. Also, those people are more in demand who can motivate, stimulate, and innovate, as well as those who can categorize, personalize and generalize.

Along these lines, he pointed out:

To reduce a man to nothing, it is only necessary to give his work a character of uselessness.

Two men working with you are worth 12 men working for you.

Eighty per cent of misunderstandings occur because we assume others act for the same reason we act.

We seldom have all the facts in a matter, and yet he who knows least commonly presumes most.

To get a person to understand our point of view, we must first understand his.

Your growth depends upon your willingness to experience anxiety.

Dr. True stated: "There's enough idea power in this room to change the course of history. All enterprises begin with an idea and will fail when people quit having ideas."

He appealed to those over 60 to "be young at 60; have dreams." Many men in their 60s, 70s, or even 80s have great ideas and discover things, he said; and, if you lack experience—well, have expectations.

In closing, he said: Will your ideas make you great?

Frank D. Reese, president, Automatic Electric Laboratories, Inc., presenting "The Independent Telephone Industry's Progress from the Manufacturer's Viewpoint," stated: "Every Independent telephone man knows that valuable contributions to the technology of the industry have come from all companies manufacturing telephone equipment."

Mr. Reese said one factor greatly influencing the design of new telephone equipment is its life expectancy. Enlarging on this, he said:

"Every telephone company is interested in keeping the recurring maintenance costs low; and telephone apparatus has generally been well built so that the average life of central office switching equipment is from 20 to 25 years, and individual instances run in excess of 40 years. Instruments have a capital life of some eight years.

"Without stopping at the moment to argue whether or not telephone equipment of the future should be designed to last this long, we realize that this longevity produces a tremendous influence on the future. New designs must be compatible with existing telephone operating company plant investment. Most manufacturers of office machinery, computers, and entertainment electronic products, are generally not so fettered.

"They may obsolete a design, and produce a device with far less consideration of the problem of addition and maintenance to existing equipment in use."

Looking into the past, Mr. Reese said, "Years ago there was far less need for technical compatibility be-

(Continued on page 55)

PIONEERING

AT BELL TELEPHONE LABORATORIES

In such an open field as this Dr. Karl Jansky of Bell Laboratories opened the way to radio astronomy. His search for a mysterious source of radio noise led him—and us—to the stars for our answer.

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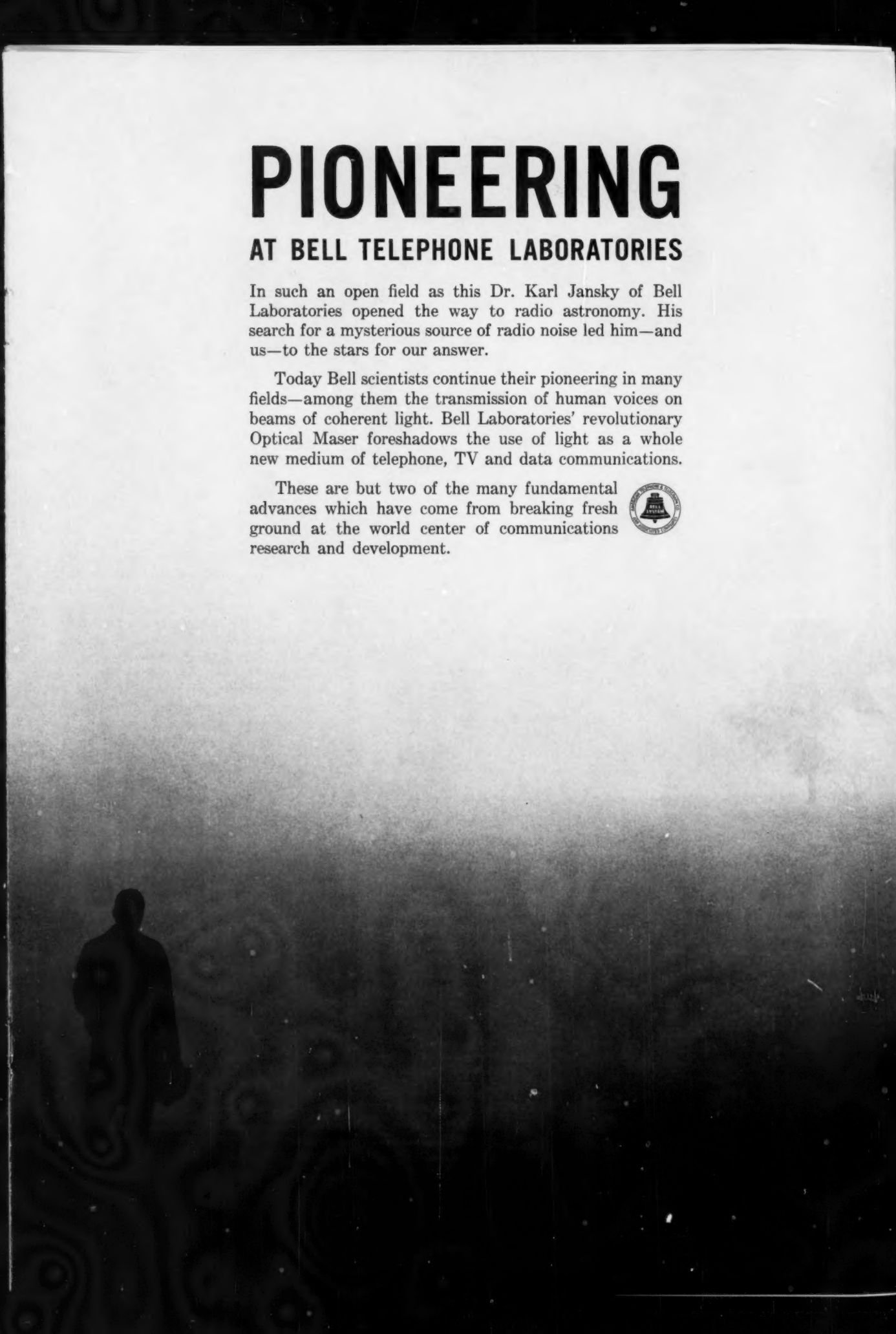
These are but two of the many fundamental advances which have come from breaking fresh ground at the world center of communications research and development.



How the Telephone Industry

Creates Jobs and Job Stability

By ALEXANDER I. WARRINGTON

ABOUT 700,000 persons find employment in the telephone industry, and at least another 500,000 persons are employed on a regular full-time basis because of telephone activities. These half million persons have jobs as a result of such things as purchases and construction activities of the telephone industry.

For example, the more than 100,000 vehicles requiring around 80 million gallons of gasoline is a clue to employment that arises in the manufacturing of these vehicles and the production of the gasoline, plus the servicing that is perpetually a part of all types of motor cars and trucks. There is also the annual expenditure for transportation services of something like 74 million dollars.

Endless streams of raw materials are absorbed by the telephone industry, and because of this facet of the communication economy, at least 20,000 persons find full-time employment in various types of transportation required to move these raw materials.

The production of motor vehicles, the refinement and distribution of gasoline, and various types of transportation services are dependent on accounts that have a high degree of stability, such as the telephone industry. And while the same could be said for almost any other kind of business and industry, these industries have been picked out because of their impact on full and regular employment of the available manpower.

Year	*Total*
1960	23.1
1955	19.1
1950	11.1
1945	6.2
1940	5.1
1935	4.4
1930	4.4
1925	2.7
1920	1.6
1915	0.8
1910	0.6
1900	0.1

Table 1. Book value of telephone plant (in billions of dollars).

Year	*Total*
1960	53.5
1955	50.0
1950	44.7
1945	40.0
1940	32.0
1935	26.7
1930	29.1
1925	28.5
1920	27.0
1915	INA
1910	INA
1905	INA
1900	INA

Table 2. Employes in non-agricultural establishments (in millions).

The telephone industry has been active in various types of construction activities, including the erection of new buildings. More than three million man-days can be traced to these activities.

Total employment in the construction industry is seasonal and responds quickly to changes in the over-all economy. Conversely, the over-all economy responds to the rise and fall in the level of construction activities. When it seems to be in the national interest to spur the economy onward, most economic advisors are quick to recommend almost everything and anything in favor of construction.

It follows, then, that a good deal of latitude should be given any industry that has a tendency to give a high degree of stability to construction because of a continuing program of new buildings and maintenance, such as we find in the telephone industry.

The telephone industry also depends heavily on paper and paper products. This is well illustrated by the directories, which are bulky volumes in the more heavily populated urban centers. It is estimated that paper and paper products required by the telephone industry give employment to at least 9,000 people.

Another way in which the telephone industry provides employment in other fields is through the manufacturers of telephone equipment and supplies, purchased by operating telephone companies.

For example, in 1960, Western Electric spent approximately 1.25 billion dollars on behalf of the Bell System. The system bought goods and services from nearly 40,000 firms from virtually every state, about 90 per cent of them small companies with fewer than 500 employes. About 6,800 of these became new Western Electric suppliers for the

(Continued on page 38)

Year	*Total*
1960	395
1955	337
1950	281
1945	198
1940	165
1935	136
1930	163
1925	145
1920	124
1915	104
1910	82
1905	49
1900	18

Table 3. Number of telephones per 1,000 population.

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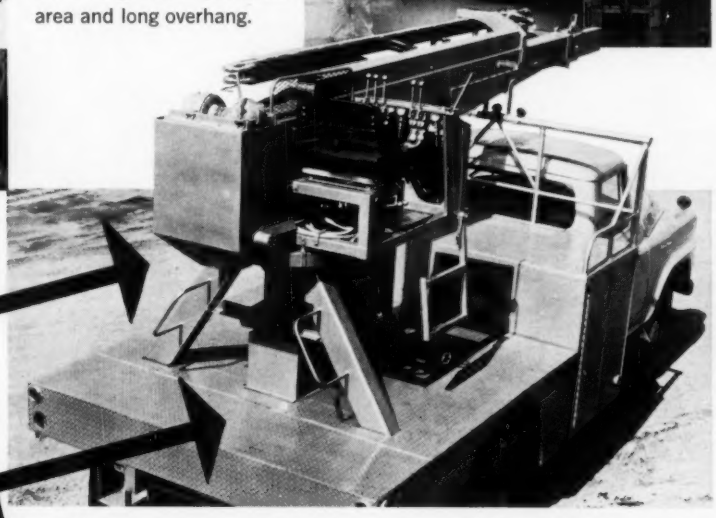

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first time in 1960. Following is a breakdown of WE expenditures:

Materials for telephone manufacturing operations $470,000,000

Materials for resale as such to Bell telephone companies ...$340,000,000

Materials and subcontracted items for government orders..$380,000,000

Transportation services (goods and personnel) .....$ 60,000,000

It might be well to ponder a few minutes on the professions and specialties relating to analyses, interpretation, forecasting, and economic summaries.

Something in the way of a saturation point is near, because there has been a little too much effort and too much willingness to tell people what statistics mean and what the future holds on the basis of economic indicators.

Since people are on a higher educational level than at any time in previous history, they are quite capable of making their own analyses, interpretations, and summaries.

However, we conclude this story on how the telephone industry creates jobs and gives stability to jobs by presenting certain facts in *Tables 1, 2,* and *3* which should throw further light on the subject.

These tables reflect a number of things, two of which are:

(1) An upturn in book value of telephone plant, employment, and number of telephones since the turn of the century, and

(2) A high degree of economic compatibility between the items enumerated in the tables.

There is a marked degree of sensitivity between the economic health of the telephone industry and the national economic health. Both are interdependent and the telephone industry exerts a stabilizing influence on both national and international economic conditions in varying degrees.

The telephone industry engages in many types of planning which have a direct impact on both stabilizing and expanding commerce and industry. Here are a few examples of the many that could be given:

(1) In constructing new buildings, telephone service is planned so that it will be available immediately upon occupancy.

(2) A new industrial or a new residential area will be provided with complete telephone service immediately when needed.

(3) An industrial complex requires specific types of telephone needs, and this is an important activity in many telephone offices. The service may be for a new industrial complex or for one that is expanding.

(4) Telephone service has to meet unusual situations and conditions.

(Off-shore drilling in Louisiana is an example).

These are some of the observations of the author, and the reader can undoubtedly come up with others.

Telephone Industry Building Construction Grew in 1960

The domestic communications operating industry of the United States, which includes both telephone and telegraph service, spent approximately 182 million dollars in its 1960 building construction program, an increase of about 7 million dollars over the 1959 figure, the Business & Defense Services Administration (BDSA) U.S. Department of Commerce, estimated on June 26.

Based on a survey covering 127 telephone companies—94 per cent of the industry—BDSA's Communications Industries Division said that the construction program, at a normal level, reflected the growing needs of the industry.

According to the survey, 75 per cent of the money was used to construct buildings of the reinforced concrete type, and 15 per cent for structural steel frame buildings.

The survey was made to determine the volume of materials consumed by the communications industry for building construction alone. The critical metals usage exceeds the requirements for ordinary building construction, since the communications structures usually are designed with high ceilings, and are strengthened to hold great amounts of deadweight to accommodate the equipment. The telephone industry is the user of more steel for building construction than any other single industry.

The building program required 26,099 tons of carbon steel of which 1,189 tons were steel plate. There were 12,494 tons of carbon steel used for structural steel frame buildings including 7,749 tons of structural steel shapes and piling.

There also were 218,839 pounds of copper and copper base alloy and brass mill products used: 1,036,301 pounds of copper wire mill products, such as copper wire and cable, for lighting and power: 65,622 pounds of copper and copper base alloy foundry products and powder. Light weight aluminum consumed totaled over 65,000 pounds. Minor amounts of stainless steel, nickel alloy and alloy steel also were required.

Open Telephone Link of London-Ankara-Tehran

In telephone conversations on June 20, United Kingdom ambassadors handed over to the Turkish and Iranian governments telecommunications equipment valued at nearly 250,000 pounds or about $703,750. The equipment was provided by the U. K. through the Central Treaty Organization (CENTO). The conversations over radio-telephone circuits took place between London and Ankara and Tehran; and between Ankara and Tehran via London.

Participants were U. K. Ambassador to Turkey, Sir Bernard Burrows, K.C.M.G.; His Excellency Orhan Mersinli, Turkish Minister of Communications; and between Sir Geoffrey Harrison, K.C.M.G., U. K. Ambassador to Iran; and His Excellency Engineer H. Sami'i, Iranian Minister of Posts, Telegraphs & Telephones.

L. D. Schecher Named S. D. Cooperative Manager

Leroy D. Schecher has been named manager of West River Telephone Cooperative, Inc., Bison, S. D., and also of Grand Electric Cooperative.

The new manager, for the past four years, has been assistant to the manager at Grand Electric which he joined in 1952.

He has also worked as lineman, work order clerk and staking engineer.

Mr. Schecher was born, raised and educated in the Bison area. He is a 1949 graduate of Bison high school and attended South Dakota State college, Brookings.

Red China Expands Peiping System Toward Million Goal

The Peiping *Evening News* reports that six main branch telephone exchanges have been converted recently to a six-number dialing system, instead of the commonly-used Peiping five-number system.

This action was described as "an advance by the capital's telephone company toward a capacity of a million telephones."

According to Reuters, the Chinese Communist capital, with a population of about 6 million, including rural suburbs, now has far fewer telephones. The current directory lists about 24,000.

The directory does not list subscribers alphabetically, but classifies them by organizations.

There are only five pages, with about 100 listings each, under the heading "private residences."

The names of Communist party and government leaders are not listed.

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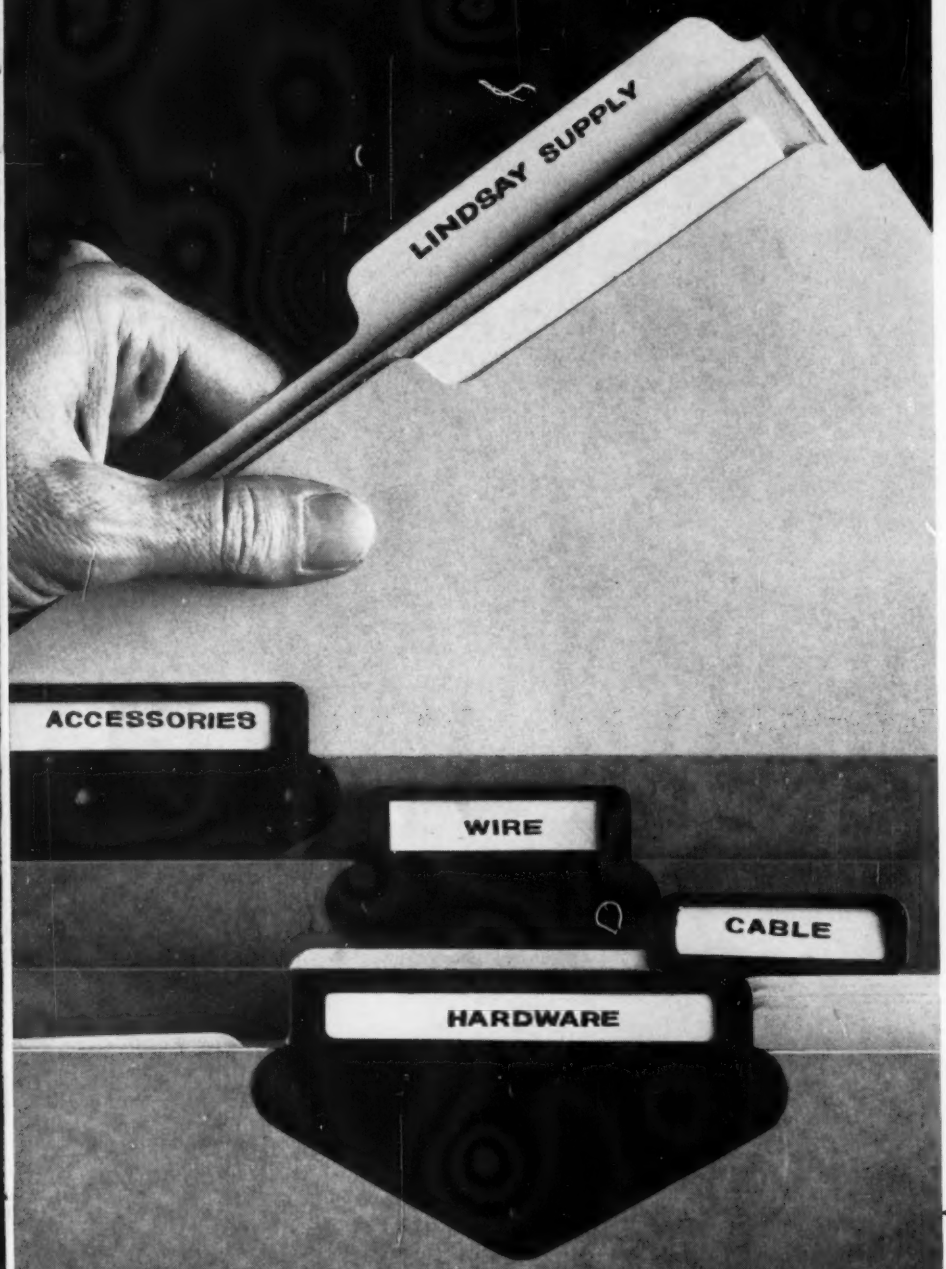

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Courts and Commissions

Authorize Rate Increase for Dial, EAS in Minnesota

The Minnesota Railroad & Warehouse Commission on June 21 approved a new rate schedule for the Woodstock Telephone Co., Ruthton, affecting its exchanges at Holland, Russell, Woodstock, and Ruthton, which is designed to yield an annual net income of $24,998.

The Woodstock company was earlier authorized to purchase the Deuth Telephone Co., Holland, and the Holland Farmers Telephone Co.; the Russell Telephone Co., and the Russell Farmers Telephone Co. (TELEPHONY, Mar. 25).

The Commission order stated that these exchanges were to be cut over to dial, and Woodstock was to provide extended area service between Ruthton and the Tyler Telephone exchange; between its Ruthton and Woodstock exchanges and the Pipestone exchange of Northwestern Bell Telephone Co.; between its Holland exchange and Pipestone; and between Holland and Ruthton. The expansion program is being financed with the aid of an REA loan.

The company had net income of $11,545, which, on a $583,192 rate base, gave it a 1.97 per cent rate of return. On the basis of new rates approved, and a net income of $24,998, the Woodstock company would have a rate of return of 4.28 per cent.

Old and new rates of the company are shown as follows:

	Old Holland Manual	*New Holland Dial*	*Old Russell Manual*	*New Russell Dial*	*Old Woodstock Dial*	*New Woodstock Dial*	*Old Ruthton Dial*	*New Ruthton Dial*
One-party business	$1.50	$7.75	$3.50	$7.00	$6.00	$7.75	$7.00	$7.35
Two-party business	—	6.75	3.00	6.00	5.00	6.75	6.00	6.35
Rural multi-party business	—	5.75	—	5.00	4.50	5.75	5.00	5.35
One-party residence	1.25	5.25	2.25	4.50	4.00	5.25	4.50	4.65
Two-party residence	—	4.50	2.00	3.75	—	4.50	—	3.90
Four-party residence	1.00	5.00	1.75	4.25	3.25	5.00	3.75	4.40
Rural multi-party residence	1.00	—	3.25	—	4.00	—	4.25	—

Service Transfer in Kansas

The Kansas Corporation Commission on June 26 was to have heard the application of the Hoyt Telephone Co. to cease doing business. The Northern Kansas Telephone Co., Inc., Ottawa, has asked to buy the Hoyt exchange and convert it from magneto to dial service.

The commission noted that "the company began operations in 1916 with a residence rate of $1.50 and a business rate of $2.50, and has never applied for, nor received, a rate increase in the intervening 45-year period."

The funds will be used to furnish improved service, including a new dial system. The Cherokee company will then be serving, in addition to Cherokee, the towns of Barton, Margerum, and Allsboro, and adjacent areas.

General of NW Seeks Rate Increase in Washington

The General Telephone Co. of the Northwest, Spokane, has asked the Washington Utilities & Transportation Commission for permission to raise rates by $397,710, it was reported on June 20.

This figure would give the company an increase of $182,350 after taxes.

Since its last rate increase was granted in 1959, the company, according to A. J. Barran, president, has experienced substantially increased costs, particularly in financing of its expansion and service improvement programs.

Grant Ala. Loan Request, Interim Raise, Dial Rates

The Alabama Public Service Commission, it was reported on June 18, approved the petition of the Cherokee Telephone Co. to form a new corporation to be known as Cherokee Telephone Co., Inc.; to borrow $200,000 from Stromberg-Carlson Credit Corp., for building and installation of new equipment; and to put into effect interim rates pending cut-over to dial service.

Two schedules of rates were approved by the Alabama commission — an interim rate to be effective immediately, in order to make adequate funds available and to have sufficient revenues for proper operating expenses until cut-over (estimated to be about one year); and a second rate increase to be effective at the time of cut-over.

Interim rates and those effective on cut-over, set up by the commission are as follows:

	Interim	*Dial*
One-party business	$5.00	$8.00
Two-party business	4.00	6.50
Five-party business	3.00	5.00
Multi-party business	4.00	5.50
One-party residence	4.00	5.50
Two-party residence	3.00	4.50
Five-party residence	2.50	4.00
Multi-party residence	2.50	4.00

Reclassifications, Raises Sought by SBT&T in Florida

The Southern Bell Telephone & Telegraph Co. on June 16 asked the Florida Railroad & Public Utilities Commission for approval of a $2,196,000 rate increase.

The company said rates would be increased in some areas and lowered in others, depending upon their growth or decline since the last rate schedule was approved in March 1951.

In the Greater Miami area, rates for one-party business service would rise from $15.00 to $15.50; for two party business service rates would increase from $11.50 to $12.00.

There would be no increase in rates for one and two-party residence service. However, the rate for four-party residence service would rise from $3.15 to $3.40.

Some Florida communities which were hamlets in 1951 now are fairly large cities, John J. Ryan, Southern

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Bell's South Florida manager pointed out. But, subscribers in these places are still paying the same rate, he said, as when there were only a few telephones in the area.

Withdraw Petition to Serve Contested Area in Wyoming

Range Telephone Cooperative, Forsyth, Mont., on June 5 withdrew an application it had pending before the Wyoming Public Service Commission to serve a contested area in northeastern Wyoming (TELEPHONY, Jan. 14).

Mountain States Telephone & Telegraph Co. had also applied for authority to serve this sector, the Beulah-Aladdin area, and each company had protested the other's application.

Range Telephone also withdrew its protest of Mountain States' application.

The Range company had also sought territorial rights to serve the Hulett area, along the Montana border.

Authorize Loan, Approve Purchases in Arkansas

The Arkansas Public Service Commission on June 20 authorized the Hardy Telephone Co. Inc. to borrow $260,000 from Stromberg-Carlson Credit Corp. (TELEPHONY, June 10). The money will be used to install dial exchanges at Ash Flat, Cherokee Village and Viola and to expand the company's over-all system.

At the same time, the commission approved the Hardy Telephone Co. Inc.'s purchase of the properties of the Hardy Telephone Co. and the Home Telephone Co.

Ask Sale Approval, OK Service Extension in Mo.

The Avalon Telephone Co. has asked the Missouri Public Service Commission for permission to sell its property to Herbert E. Albertson.

•

Also in Missouri, the Webster County Telephone Co., Marshfield, has been granted approval to serve the area in and around Elkland.

Ask Okla. Supreme Court To Rule on Directory Listing

A Tulsa company has asked the Oklahoma Supreme Court to rule on its request to have Southwestern Bell Telephone Co. list it in Tulsa's telephone directories as AAAAAAAAAA-AAAAAAAAAAAA (23 A's).

The Oklahoma Corporation Commission has denied the company's request.

The company, which is in the trash hauling business, argued that it is officially incorporated under the name and that Southwestern Bell must give it a telephone and list it that way in the regular directory as well as the yellow pages.

Southwestern Bell states the company already has telephone service under another name.

Two Kansas Companies Get Interim Dial Rates

The Kansas Corporation Commission on June 21 authorized interim dial rates for four exchanges of the Kansas State Telephone Co., Baxter Springs. The rates are to be effective at Baxter Springs, Galena, Riverton and Scammon on conversion to dial. The new rates will be collected under bond.

•

Also in Kansas, the Elkhart Telephone Co. was granted permission to charge interim dial rates, to be collected under bond, on cut-over of the Elkhart exchange.

The commission also allowed the company to borrow $30,000 more from a private source to complete the conversion.

Larkin Appointed To New York Commission

After certification by Chairman James A. Lundy that another commissioner was required to properly handle the business of the New York Public Service Commission, Gov. Nelson A. Rockefeller on June 22 appointed Edward P. Larkin of Floral Park, L. I., to a 10-year term as commissioner. Mr. Larkin was sworn in immediately.

Mr. Larkin was born in Brooklyn and received his elementary school education there. He attended St. John's University. He entered the building business and later, for 17 years, was associated with county and town government in various administrative positions.

From 1942 to 1952, Mr. Larkin was secretary to the Town of Hempstead Board of Zoning Appeals. In 1952 he was elected to the Assembly and later, to the New York Senate. In 1955, he was elected supervisor of the Town of Hempstead and became presiding supervisor, which post Mr. Larkin resigned to accept the appointment as commissioner.

Mr. Larkin served in the United States Army during World War II; overseas with the 1270 Engineer Combat Battalion. He is Republican committeeman of the 34th election district of Nassau County.

Four Ask to Sell, One To Cease Business in Mo.

The Missouri Public Service Commission has received the application of the Big Springs Telephone Co., an unincorporated association, to sell its property to the Kingdom Telephone Co., Auxvasse. The applications of the Rhineland Telephone Co., and of the Union Telephone Co., Americus, both also unincorporated associations, to sell their properties and facilities to Kingdom Telephone are also before the commission.

•

The application of A. F. McAdams and Mary O. McAdams, doing business as the Rayville Telephone Co., to sell their plant and equipment to the Southwestern Bell Telephone Co., and to discontinue business, has been set for a hearing before the commission on July 11.

Southwestern States Gets Raises at 2 Texas Exchanges

The Southwestern States Telephone Co., Brownwood, Tex. has announced increases in local telephone rates in June in the Texas exchanges of Kingsland and Round Mountain, both dial operated.

The increases are as follows:

Kingsland, 179 stations.

	Old	*New*
One-party business	$8.50	$12.50
Two-party business	6.50	10.50
One-party residence	5.75	6.75
Two-party residence ...	4.75	5.75
Four-party residence ...	3.75	4.25

Round Mountain, 122 stations.

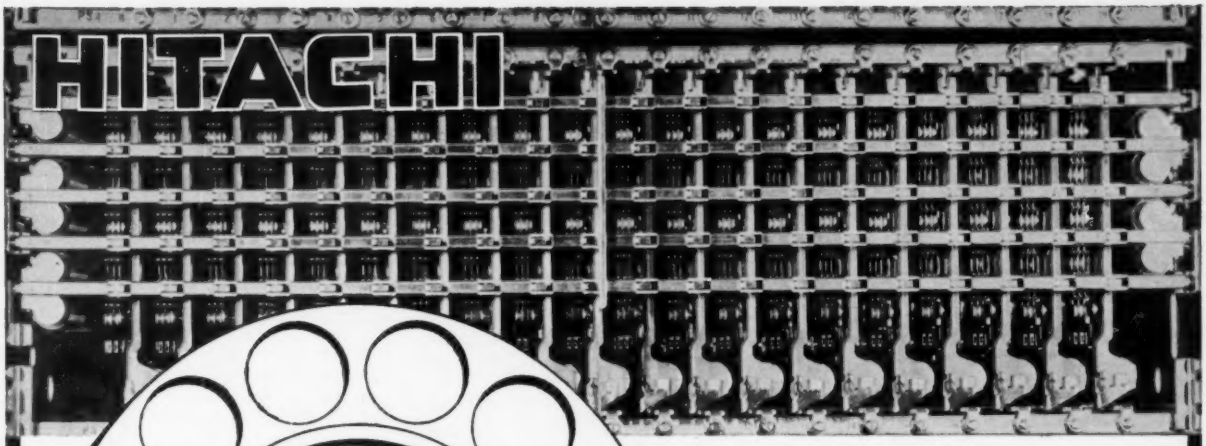
	Old	*New*
One-party business	$6.25	$9.75
Two-party business	4.75	8.00
One-party residence	3.75	5.25
Two-party residence ...	—	4.25
Four-party residence ...	2.50	3.50

Approve Rates for Dial, DDD, EAS in Minnesota

The Minnesota Railroad & Warehouse Commission on June 26 approved an interim schedule of rates, and dial rates on cut-over for the Delavan Telephone Co.

The Delavan company is modernizing its service by converting from common battery to dial, financed by a private loan of $95,000, and expects to have its rehabilitation completed by late this year. The company presently serves 132 local stations and 219 rural stations.

Under old rates Delavan has a deficit of $2,337. An interim rate base of $41,633 was computed, after allowing



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for a current value adjustment of $7,505. Upon dial conversion, the rate base was computed to be $131,769.

With interim net income of $2,436, it is estimated the company's rate of return will rise to 5.85 per cent; and with a net income under dial rates of $7,616 the rate of return will become 5.77 per cent.

Present, interim and dial rates for Delavan are shown as follows:

	Present Manual	*Interim Manual*	*Dial*
One-party business	$4.25	$6.00	$8.00
Two-party business	3.75	5.50	7.25
Rural multi-party business —common battery	4.25	5.50	5.75
Rural multi-party business —magneto	3.75	5.00	—
One-party residence	3.25	4.75	5.50
Two-party residence	2.75	4.25	5.00
Four-party residence	2.50	3.75	4.25
Rural multi-party residence, common battery	3.75	5.00	5.00
Rural multi-party residence, magneto	3.25	4.50	—
Rural multi-party residence, grounded	2.00	—	—

•

The commission also approved a new schedule of rates for the Harmony Telephone Co. on June 26.

This company is modifying its switchboard to establish DDD, and the requested rate increase is designed to provide a fair rate of rate of return in meeting these extra expenses. Harmony operates a dial exchange serving 525 local and 77 rural stations, plus 175 switchers.

In its petition, Harmony showed net income of $5,527, a rate base of $116,001, and a rate of return of 4.76 per cent, compared with an anticipated net income of $7,395, and a rate of return of 6.43 per cent with new rates.

Old and new net rates are as follows:

	Old	*New*
One-party business	$5.00	$5.75
Two-party business	4.25	4.75
Rural multi-party business	4.00	4.50
One-party residence	3.75	4.00
Two-party residence	2.75	3.00
Four-party residence	2.00	2.25
Rural multi-party residence	3.50	3.75

•

Also authorized by the Minnesota commission was a general rate increase for the North Star Telephone Co., Mountain Lake, affecting its Mountain Lake, Comfrey, Odin, Butterfield, Delft, and Darfur exchanges.

North Star is engaged in rehabilitation of its six exchanges to dial service, financed with the aid of an REA loan of $750,000. It is also rebuilding all of its outside plant to reduce the number of stations per line to a maximum of eight stations, with a general line fill of four to six stations. All improvements in work are completed, except at Mountain Lake, which it is expected, will be cut over by Dec. 1.

A current net income of $29,463 gives the company a rate of return of 2.61 per cent on its $1,128,861 rate base. North Star expects, under the newly approved rates, a net income of $49,304 giving it a rate of return of 4.36 per cent.

Net dial rates approved are as follows:

One-party business	$7.00*
Two-party business	6.00*
Four-party business (Ormsby only)	5.00
Rural multi-party business	4.50*
One-party residence	4.50*
Two-party residence	3.75*
Four-party residence	3.00*
Rural multi-party residence	4.00*

*An additional surcharge of 50¢ per month for extended area service to the Windom, Minn. exchange of Northwestern Bell Telephone Co. This service only applicable and provided to subscribers connected to the Delft exchange of North Star Telephone Co.

FCC Denies AT&T, GSA Petitions on TELPAK Rates

On June 28, the FCC denied petitions by AT&T and the General Services Administration (GSA) for reconsideration of an Apr. 12 memorandum opinion and order which limited AT&T's charging of TELPAK rates to discrete broadband channels (TELEPHONY, May 6). This earlier memo also held that TELPAK rates are not applicable in those cases where a customer is furnished with the required number of lesser channels derived from a number of convenient sources.

The FCC said:

"To avoid any future misunderstanding, it is now pointed out that the consequence of our interpretation of the TELPAK tariff is to prohibit AT&T from charging the rates contained in Tariff FCC Number 250 for services, or channels, other than those defined above; and in the Apr. 12 memorandum opinion and order as TELPAK channels."

With Messrs. Minow, Hyde, Bartley, Lee, Craven and Cross sitting in on the FCC deliberations, only Commissioner Craven voted for oral argument of the issue.

PT&T Finalizes Property Transfer to Pacific NW Bell

At a special meeting of the board of directors held on June 30, the Pacific Telephone & Telegraph Co. took the final steps necessary to turn over its telephone properties and business in Washington, Oregon and Idaho to Pacific Northwest Bell Telephone Co. in exchange for all of the securities of the latter company. **(EDITOR'S NOTE:** News on the approval of this transaction by the Washington Utilities & Transportation Commission appeared in the June 17 edition of TELEPHONY; by the Oregon Public Utility Commissioner in the July 1 issue.)

The actual transfer was to take place on midnight of the 30th.

The next step to be taken under the plan for reorganization approved by the shareholders at the annual meeting on Mar. 24, will be for Pacific Telephone to offer for sale to its shareholders a portion of the capital stock of Pacific Northwest Bell. It is expected that this offer will take place late in September, 1961.

The offering will be made only by a prospectus, after a registration statement to be filed with the Securities & Exchange Commission has become effective.

Rule Southern Bell Must Make Toll Refund in La.

The Louisiana Supreme Court ruled on May 29, in a 4 to 3 decision, that the Southern Bell Telephone & Telegraph Co. must make additional refunds in connection with intrastate toll rates as called for in a 1960 Louisiana Public Service Commission order (TELEPHONY, Aug. 20, 1960).

The case had been appealed to the supreme court by the commission following a permanent injunction issued by the East Baton Rouge District Court against the order.

The 1960 commission order required that Southern Bell refund 20 per cent of all intrastate toll rates and charges collected by Independent companies for use of Southern Bell facilities used in delivering messages originating in Independent companies' exchanges for the period from September 1, 1956 to June 14, 1959 and to refund 10 per cent of such rates and charges for the period from June 14, 1959 to May 5, 1960, during which periods reduced intrastate toll rates were in effect.

Southern Bell has filed an appeal for a rehearing.

Progress Needs Production

"There is no such thing as guaranteed annual progress. There must be incentives to attract investment capital and stimulate a continuation of the steady forward march of technology. Management must be alert to its responsibilities, and all who work must recognize that the only way to have more is to produce more."—HARLOW H. CURTICE, *Former president, General Motors Corp.*

Book Review

"DESIGN MANUAL FOR TRANSISTOR CIRCUITS," by John M. Carroll, managing editor, *Electronics*; 376 pages plus index; 28 illustrations; 8⅜ x 11; $9.50.

"Design Manual for Transistor Circuits" was compiled to help the engineer in designing circuits using transistor and other semiconductor devices. It contains a review of basic transistor and semiconductor theory, and discusses the use of transistors in basic circuits such as amplifiers, oscillators, power supplies, and pulse circuits. There is also material on the application of transistors in equipment such as communications apparatus, instruments, and computers. In addition, the book includes articles dealing with basic transistor circuit design philosophy, design charts, and nomographs. Applications of newest devices such as tunnel diodes, silicon controlled rectifiers and unijunction transistors are also covered.

Advances made in semiconductors during the last three years are stressed and there are many circuit diagrams detailing up-to-date designs and applications. One of the book's special features is its introductory chapter (co-authored by Donald Hall, manager, special products branch, transistor products group, Semiconductor Components Division, Texas Instruments, Inc., Dallas) which permits quick review of basic transistor and semiconductor theory.

"Design Manual for Transistor Circuits" is based on material which has appeared in *Electronics* magazine.

Mr. Carroll has been on the magazine's staff since 1950. A graduate of Lehigh University (BS in engineering) and Hofstra College (MA in physics), Mr. Carroll spent five years in Navy electronics and one year with the National Bureau of Standards. He is the author of several other books, among them "Transistor Circuits and Applications" and "Modern Transistor Circuits." This book can be ordered through TELEPHONY.

Measure of Greatness

"That nation has not lived in vain which has given the world Washington and Lincoln, the best great men and the greatest good men whom history can show."—HENRY CABOT LODGE —Lincoln address before the Massachusetts Legislature, Feb. 12, 1909.

Refiners' Fire

"Life is of little value unless it be consecrated by duty."—SAMUEL SMILES.

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The Brontosaurus and the Telephone Industry

By DOUG PLASKETT*

I DON'T KNOW for sure how I became part of a guided tour through the museum with a pack of restless Wolf Cubs. Maybe it was the good looking, fast talking pack leader that brought out the wolf in me.

My mind was only half on what the guide was saying until I heard him mention "huge size and complacent disposition." The guide was telling the scouts that an immense pile of bones was the framework of a prehistoric Brontosaurus, a dinosaur type of creature that passed out of existence, probably because his huge size led to a complacent attitude that prevented him from adapting to the changing times of his day.

The problems that this extinct creature faced, reminded me of a statement that was recently made by R. C. Scrivener, director of business development of the Bell Telephone Co. of Canada. "We're big," he said, "and bigness can lead to slowness and inflexibility. We have to be quick off the mark—and as easy to deal with as our smallest competitors."

Here is a facet of bigness that applies to transportation companies, department stores, power and communication companies, in fact any business endeavor that, through good management, grows to a large size. The telephone industry has recognized the future dangers and has developed new marketing research and techniques to determine what the customer wants and how to present it to him, but the change has to go deeper than skin deep. For example:

• Over coffee a few days ago, a toll central office man was telling us of transmission difficulties on some private line circuits. Repeatedly, tests were made and engineering decisions were delayed—and the customer's patience wore thin.

• A company official assured a customer that his important telemetering circuit would receive careful protection and service. A few hours later a cable splicer opened a cable sheath and put the circuit out of order.

• A private line salesman promised his prospect that a new circuit would be installed for him as soon as possible, but a central office installer pigeonholed the order until the due date.

• A customer asked if his new SRCS number couldn't be changed to a simpler one—a reasonable request from the customer's point of view. The salesman promised to see if a better number was available.

"Impossible!" the circuit order writer howled. "Sure I have one but why should I issue a correction order to change it. Who does the customer think he is?"

Probably you can think of many similar situations where the customer's point of view was overlooked in your company. Perhaps the splicer was misdirected, or a supervisor didn't feel it was necessary to stress customer relations to the order writer, but such reasons don't make the customer feel any better.

If the Brontosaurus was going to be quick and flexible, the whole animal would have had to change, and if a big company resolves to move with the agility of a smaller competitor, it affects every department and employe in that company.

Interdepartmental strifes have to go, "lines of organization" have to be straightened and shortened, and whatever our position is in the company, it must include an awareness of the customer point of view and service. The old adage that the customer is always right means as much today as it always did.

Don't let your company be a Brontosaurus.

*Mr. Plaskett is with the Bell Telephone Co. of Canada at Kitchener, Ontario.

High Point, N. C. Company Purchases Business Location

The North State Telephone Co., High Point, N. C., on June 18 announced the purchase of the High Point Savings & Trust Co. building, located in High Points' central business district.

Robbins Tilden, vice president and secretary-treasurer of the company, stated: "For expanded and improved services to our patrons, we are very pleased to be able to acquire a central business location for future use which is so conveniently located and well-known as the main office building of the High Point Savings & Trust Co."

The North State company is the state's fifth largest telephone company, serving more than 37,000 telephones in High Point, Thomasville, and Randleman.

Gary ITPA Gathering

The ninth annual barbecue of the Theodore Gary Chapter of the Independent Telephone Pioneers Assiciation was held June 24 at Busch's Lake near Jefferson City, Mo. One hundred thirty-two members and guests attended.

PUBLIC RELATIONS

Concluded from page 24

investors, but everyone who works for a living."

As our society becomes more complex, as citizens become better informed, as employes become more skilled, as government becomes more possessive, as unions become more powerful, as stockholders become more selective—the company with foresight will take advantage of progressive public relations to enhance its relationships with these important publics.

Public relations is not an end in itself. It is a tool of management and, if used wisely, a very valuable tool.

Col. J. W. Johnston Is Chief Signal Corps R&D Division

Col. J. Wilson Johnston has been named chief of the research & development division, Office of the Chief Signal Officer, it was announced on June 28. He replaces Brig. Gen. John C. Monahan, who has been reassigned to Korea.

Colonel Johnston, a native of Seattle, Wash., is a graduate of the University of Oregon. He entered on extended active duty in 1941. During World War II, he held intelligence assignments, one as administrative officer of the Army's Signal Security Agency, and from 1946 to 1949, he served with the Army Security Agency in Tokyo.

Colonel Johnston has also served in positions on the staff and faculty of the Command and General Staff College, Fort Leavenworth, Kan., and as chief of the plans and training branch, Signal Division, Supreme Headquarters Allied Powers Europe (SHAPE).

Prior to his new assignment, Colonel Johnston served for nearly three years as Deputy Chief of the research and development division in the Office of the Chief Signal Officer.

He is a graduate of the U. S. Army Signal School advanced officer course, the Command and General Staff College, and of the Industrial College of the Armed Forces.

He holds the Legion of Merit among his awards and decorations.

Time Is Now

"Men spend their lives in anticipations, in determining to be vastly happy at some period or other, when they have time. But the present time has one advantage over every other—it is our own. Past opportunities are gone, future are not come."—COLTON.

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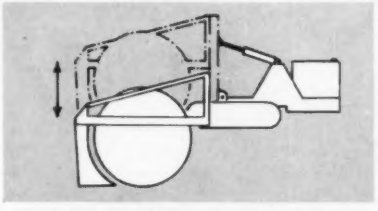

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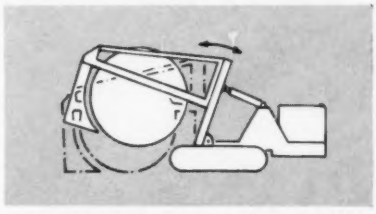
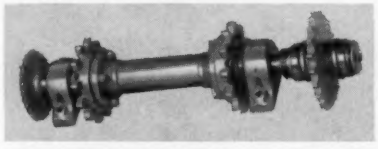


MAST-TILT RAM — moves mast forward for travel, reduces height, shifts weight for better balance.



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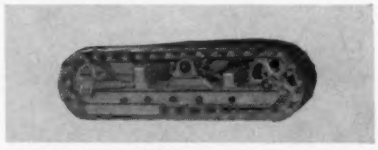

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News on New Products

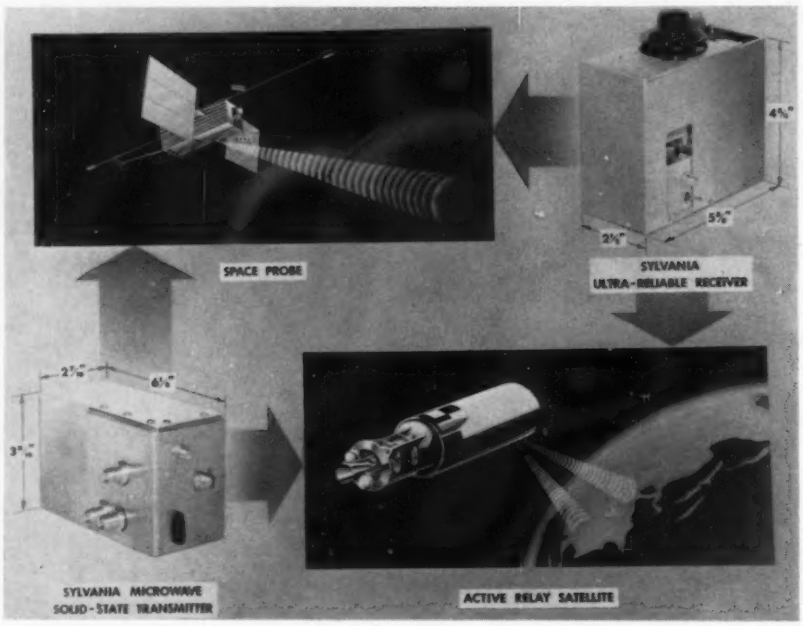
SOLID-STATE MICROWAVE TRANSMITTER AND RECEIVER—The first solid-state microwave transmitter for space communications has been announced by General Telephone & Electronics Corp. The transmitter, less than the size of a cigarette carton, occupies about one-seventh the space, has 11 times the life expectancy, and 10 times the frequency stability of conventional transmitters, GT&E stated.

The company also introduced a solid-state radio receiver adaptable to microminiaturization. It said the receiver and transmitter could be combined to form a complete space communications system. The system would be used for space probes, or could be a major element in a satellite communications system used to transmit telephone conversations, business data, or television programs on a world-wide basis, utilizing satellites 22,300 miles above the earth as relay stations.

Developed for the Air Force, the compact transmitter unit—which occupies about 55 cubic inches—is the first solid-state transmitter designed to operate with two watts of output power within the S-band (1700 to 2300 megacycles). These are considered to be the minimum power and frequency requirements for transmission of information between two points on the earth's surface via an active relay satellite in a "stationary" equatorial orbit.

Development of the GT&E transmitter raises the known upper limit of power output from solid-state transmitters at these frequencies to two watts from the previous range of .03 watt and .05 watt.

The diminutive transmitter—as well as the receiver—was developed by the Amherst (N. Y.) Laboratories of Sylvania Electric Products Inc., a subsidiary of GT&E. The laboratories are a part of Sylvania Electronic Systems, a major division of the company, which has over-all responsibility for systems management of GT&E's major government projects.



The first solid-state microwave transmitter for space communications—occupying less than the space of a cigarette carton—was announced on June 27 by General Telephone & Electronics Corp. The transmitter could be combined with a GT&E solid-state radio receiver to form a complete space communications system. The transmitter and receiver are shown (above) together with artist's concepts of an active relay satellite and space probe in which the equipment may ultimately be used.

The transmitter was designed for the Aeronautical Systems Division, Wright-Patterson Air Force Base, Dayton, O., under a $95,000 study contract. Supplemental awards following successful completion of the study presently total approximately one million dollars.

Walter Maciag, project engineer of the Amherst Laboratories' design team responsible for development of the transmitter, described techniques used in its development in a technical paper presented in Washington, D. C. at the National Convention on Military Electronics. The three-day convention is sponsored by the Institute of Radio Engineers' professional group on military electronics.

An engineering model of the trans-

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7/8/61

mitter displayed at the convention weighs about 3.5 pounds. It has the frequency stability of direct crystal control and an operating life expectancy of 22,500 hours, or more than 2½ years of continuous operation.

Conventional electron-tube transmitters of this power and frequency range consume more than 400 cubic inches of space, and have an operating life expectancy of less than 2,000 hours, GT&E pointed out.

The development techniques described by Mr. Maciag were utilized to solve major problems of heat dissipation and the application of commercially available solid-state components at microwave frequencies above 2,000 megacycles.

"The solid-state microwave transmitter has a life expectancy 11 times greater than tube-type transmitters of the same power output," Mr. Maciag said. "It is one-seventh the size, and has approximately 10 times the frequency stability of the conventional transmitters because of the use of direct crystal frequency control."

"Considered a significant contribution to the art of space communications, this transmitter employs several techniques new to solid-state engineering," he said. "It is the first solid-state microwave transmitter designed to produce output power in the order of two watts."

Developed for the Air Force, GT&E's diminutive solid-state radio receiver is the size of a transistor portable radio, and weighs about 5.4 pounds. Displayed with the receiver (at the National Convention on Military Electronics) was a mockup of its circuitry reduced to one-tenth the present size through the use of microminiaturized electronic elements.

GT&E reports the receiver unit will operate more than 10,000 hours (nearly 14 months) without failure. It is presently undergoing a life endurance test and has worked continuously for more than 8,450 hours. The current average time between failures for a typical airborne radio receiver is 450 hours.

The Waltham Laboratories of Sylvania Electronic Systems are currently conducting final development work on the receiver's microminiaturized circuitry. The microminiaturized version will incorporate many of the ultra-reliability concepts developed at the Amherst Laboratories. Request NP1671.

•

MOBILE TELEPHONE SYSTEM—Lenkurt Electric Co. has developed a new package-engineered automatic two-way dial mobile telephone system, its Type 901B2 Mobiltel.

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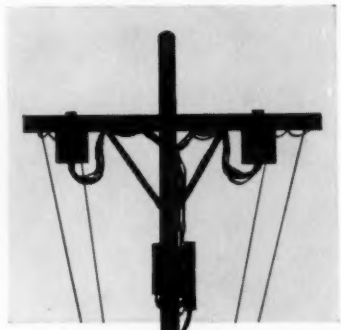

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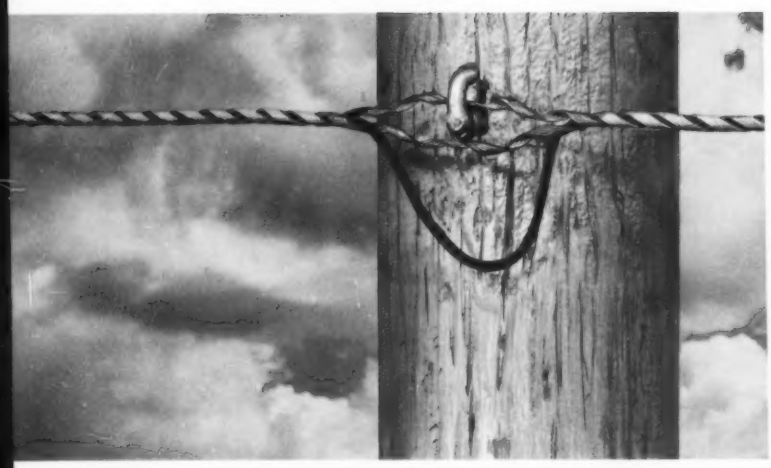

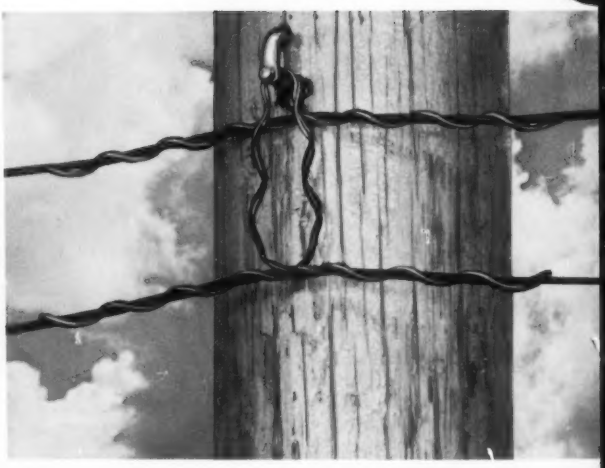

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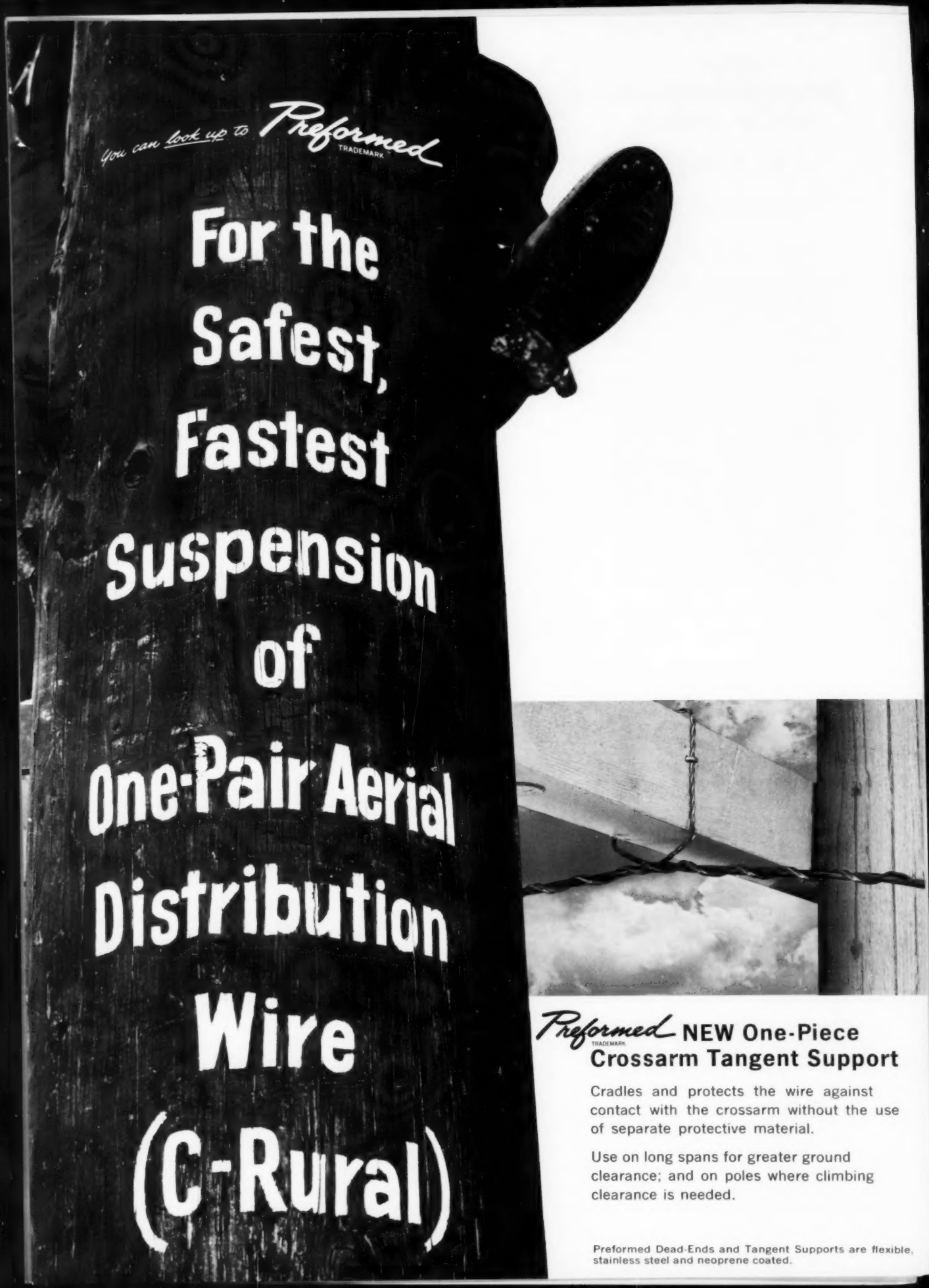
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OSMOSE

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Fig. 1. Mobile station for Lenkurt 901B2 Mobiltel, automatic mobile telephone system.

The company says that the new system (See Fig. 1) handles up to 30 subscribers on a radio channel. Simple equipment additions at the control terminal permit the capacity to be increased in increments of 10 subscribers.

These mobile units may be mounted in vehicles or at fixed locations. The distance between a stationary unit and the control terminal can be substantial with the aid of "satellite" receivers and directional antennas, Lenkurt states.

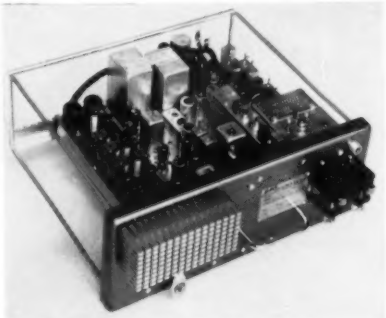

Fig. 2. Lenkurt mobile station subscriber dash unit for automatic mobile telephone system.

Transmission levels throughout the system meet telephone standards, and give maximum clarity of signal and minimum noise interference, the company adds.

The new Lenkurt subscriber dash units (See Fig. 2) have been designed for simplicity. They have a regular handset and regular dial. Simply lifting the handset gets a dial tone. Request NP1672.

•

FIBERGLAS BOOM—A new all Fiberglas boom, described as being of a specific design and subject to stringent quality control, is now available on Skyworker aerial lifts, the Hughes-Keenan Division of U. S. Air Conditioning Corp. has announced.

Boom construction is of high modulus woven roving cloth impregnated with self-extinguishing polyester resin.

At the work platform or outer end of the boom, bearings and idler sheaves are nylon, thereby eliminating any need for greasing and any possibility of dirt contamination, the company states. The drive sheave at the leveling system is protected at wear surfaces by dry lubrication, while a Fiberglas shaft and a reduction of the number of metallic parts in the area of the work platform make possible the maximum possible flashover gap.

Hoses for the remote control system at the work platform are Polypenco Nylaflow® flexible pressure hose, and tubes of the upper boom are high pressure plastic.

The internal leveling system is supplied with a Fiberglas rod assembly providing 102 inches of non-metallic construction from the work platform to the knuckle joint.

A unique "spade-end" contour of the boom at the outer end permits embedding within the housing portion of the boom all sheaves, bearings and other mechanisms necessary for safe operation, according to the company. The "spade-end," in effect, permits construction of a glass boom with no sacrifice of the most rigid safety standards. Request NP1673.

•

BACKHOES — Backhoe and Hydroclam attachments are now being offered by Parsons Co. for maintainer attachments, along with the Hydroclam in three bucket-width sizes.

Each model of backhoe can be attached and detached in minutes, the company states. The 4-pin quick-attach arrangement makes this possible.

The four Parsons models are the 1,000, with 10-foot digging depth capacity; the 12-foot 1,200; the 13-foot 1,300; and the 15-foot 1,500.

Features of Parson's backhoes include:

"Hydaway" hydraulics with cylinders, pistons, and hoses enclosed and protected (on all models except the 1,000).

Positive drive through roller chain or through direct hydraulic cylinder hook-up to swing post.

Safety locks on both boom and swing. Rubber stops on frame to cushion against swing mechanism.

Full uninterrupted 180° swing.

The company describes its Hydroclam, available in 24, 30, and 36-in. buckets, as being independently controlled to speed spot excavations without disturbing surrounding areas. Request NP1674.

•

PIPE HOLDERS—Greenlee Tool Co. announces that a pair of its new pipe holders, designed for use with Greenlee hydraulic benders, will keep a pipe level and parallel with bender shoes and pipe

supports throughout a bending operation. This, Greenlee states, assures accurate bends, and eliminates "wows" and "dog legs."

These pipe holders clamp quickly to each end of the pipe, and fit all pipe sizes from 1¼ to 4 inches in diameter. Request NP1675.

•

TEAR GAS DISPENSER—A fountain pen-size tear gas dispenser is now available from Penguin Associates that is said to solve the problem of repelling an attacking dog safely and effectively. The protective device, called a Pengun, fires an 8-foot blast of tear gas at the animal, and according to the company,

renders him temporarily helpless. It is described as equally effective against robbers or attacking human beings, and is designed to be useful to utility meter readers, telephone repairmen, postmen, deliverymen, and others.

The Pengun weighs 1½ ounces and is only 4 inches long. It fits in the palm of the hand, and may be carried in a pocket or glove compartment, or hung inconspicuously near a door ready for instant use.

To load the device, the owner merely screws in a tear gas cartridge. He flicks the trigger from its positive safety position, and releases it. A menacing animal or human being is stopped instantly, yet without permanent harm, Penguin explains, since there is no projectile.

This tear gas dispenser is rated by the U. S. Government as a non-firearm. It is made of rust-proof, color-anodized aluminum, and carries a lifetime guarantee against defective workmanship.

In addition to firing tear gas, the Pengun may be used as a signaling device, and interchangeable distress flare cartridges with 5,000 candlepower are available for it. Request NP1676.

•

TRANSISTORIZED TONE AMPLIFIER—The Model 100 C transistorized tone amplifier introduced by TeleTronics Engineering Co. is described as being actually two amplifiers in one.

Opens in RDW, drop wire, and rural "C" wire can be located immediately, the company states. Locating shorts, grounds, or the location or depth of

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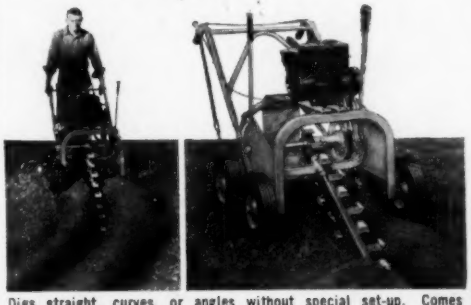

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Fast trenching at lowest cost. Reduces man-hours to minutes. Eliminates disadvantages of subcontracting. A profitable, inexpensive machine to own and operate.

- Digs 3 in. wide by 1 to 24 in. deep; or 4 in. wide by 18 in. deep
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- Since 1956 satisfied users all over U. S. A.
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- Digs 1½ to 17 ft. per minute, depending on soil conditions

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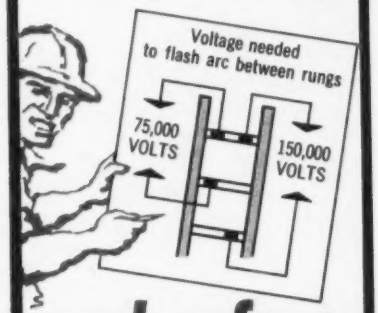
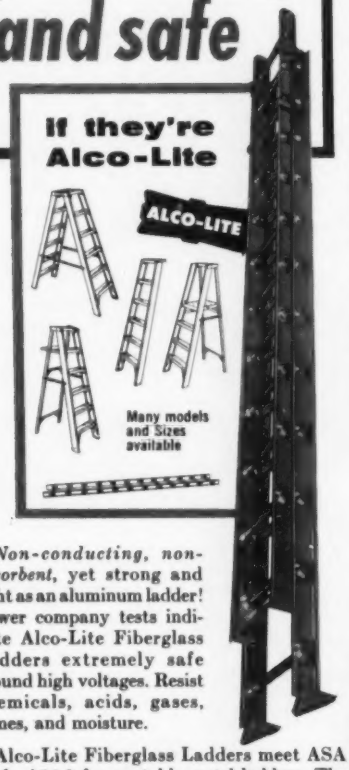


and safe



Non-conducting, non-absorbent, yet strong and light as an aluminum ladder! Power company tests indicate Alco-Lite Fiberglass Ladders extremely safe around high voltages. Resist chemicals, acids, gases, fumes, and moisture.

Alco-Lite Fiberglass Ladders meet ASA Code A14.2 for portable *metal* ladders. The wider side rails are SOLID fiberglass—not plastic covered soft wood. The wide steps and rungs are high tensile strength aluminum. More riveting and bracing throughout!

Ladders safe, strong, more rigid, have longer life, because of exclusive design and construction. Maintenance negligible. *SEND FOR CATALOG!*

Original Manufacturer of ALUMINUM Ladders

Aluminum Ladder Co.

West Darlington Street Ext.

FLORENCE 8 S. CAROLINA

"lost cables" can also be accomplished with the aid of any standard exploring coil.

Cable pair identification can also be accomplished in a fraction of the time compared to present methods, according to TeleTronics Engineering. All tests are made without piercing insulation or cutting conductors.

The unit is in a 1-x-2-x-3-inch chromium-plated steel case. The company reports one standard penlight cell powers the amplifier many months under normal use.

Included with the amplifier are a high-impedance probe for locating opens, headphones, and a 6-foot exploring coil adapter cord. Request NP 1677.

•

FOUR-PURPOSE EARTH BORER—An earth borer that converts the Holan HV Elbow into an all-purpose utility tool is now offered by Holan Corp.

A specially-designed attachment near the end of the lower boom of the elbow accommodates the Holan 5400 earth borer, enabling the unit to bore holes as far as 13½ feet from either side of the truck body. Because the elbow rotates 360° continuously in either direction, the digger and derrick can be operated behind and on either side of the truck.

The fore and aft positioning movement of the borer is accomplished by a longitudinal hydraulic positioning cylinder with a 40 inch stroke. Holan states that the rotation of the elbow mast 360° continuously in either direction provides the transverse positioning movement needed for quick spotting and boring of straight holes.

In another conversion, the elbow lifts workmen to 50 and 55-foot working heights for aerial tasks. It features two sets of A frame diagonal outrigger jacks for strength and stability. According to the manufacturer, the pat-

The Holan HV Elbow (top left) in use as an aerial lift, reaches to 50 to 55-foot working heights for all types of aerial work. The HV Elbow, with Holan 5400 Earth Borer attached 2 feet from the end of the lower boom (top right), reaches as far as 13½ feet from either side or rear of the truck body to dig holes. The longitudinal positioning cylinder speeds spotting and assures straight holes, according to the manufacturer. The Holan Elbow using a special 6-foot extension with sheave head (lower left), is used to winch and move a utility pole into position. The Elbow used as a derrick (lower right) places the pole in the hole prepared by the digger. The earth borer is shown out of the way and locked in storage position by a special semi-automatic bracket.

ented aircraft-type cable control system provides positive control of the elbow for spotting men and equipment in work areas.

The attached earth borer is moved into storage position along the lower boom by cable retraction into a storage bracket. The auger shaft trips a pin in the bracket, which automatically locks the digger into storage position.

A special 6-foot manually-extended sheave head is also available for this all-purpose elbow/derrick/digger unit. The sheave head is attached to the right side of the elbow arm, while the earth borer is mounted on the left side.

In a fourth usage, Holan says the elbow, used as a derrick, can winch and live boom from 4,000 to 6,000 pounds, at head heights up to 27 feet-10 inches at an 8 foot radius, plus an additional 6 feet, if extension is used. Operating range for the lower boom, when used as a derrick, is from horizontal to approximately 70°. Request NP1678.

PENNSYLVANIA CONVENTION

Continued from page 34

tween makes of telephone equipment. You have certainly heard it said, and may have said it many times yourself, that our segment of the telephone industry is called 'Independent' (with a capital 'I') for reasons more than that of having no financial affiliation with the Bell System.

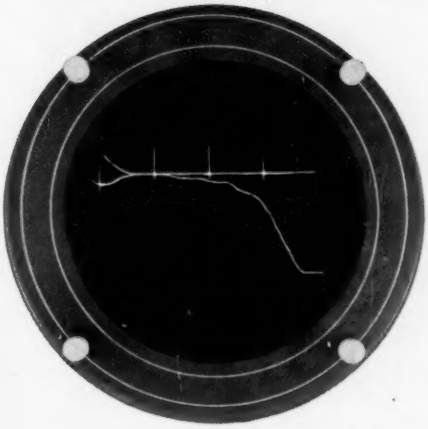
"We have been independent in thought also. We all are aware of the past lack of standardization and often apparently intentional variations introduced by our 'free thinkers.' This was not so serious back in the days when a minimum of physical interconnection existed throughout the telephone industry.

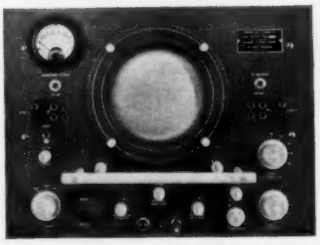
"To illustrate the point: even after the Bell System became willing to connect their toll lines to Independent exchanges, this was done by simple ringdown circuits; and the overall transmission plan of a nationwide toll system was loosely administered.

"The advent of toll dialing, the beginning of data transmission over the switched network, and other such modern trends have made increasingly important the need for complete and intimate compatability between Independent and Bell System designs. We have integrated all the parts of the national telephone system in order to achieve the success that we have enjoyed so far, and will achieve in the future.

"This need for technical compatibility has made it more frequently pru-

*TRANSMISSION CHARACTERISTICS OF A 22H88 FACILITY AS DISPLAYED BY THE NEW HALLAMORE TMS-0100 SWEPT BAND TRANSMISSION MEASURING SET





*Typical Pattern: The horizontal trace is a reference line with frequency markers each 1000cps. Irregular line is the loss vs. frequency characteristic of a 22H88 facility, 54,000′ in length, showing losses of 8.0db at 1000cps, 8.5db at 2000cps, and 10.0db at 3000cps. Fast, precise transmission measurement and the availability of a permanent photographic record of readings are prime advantages of the Hallamore Swept Band Transmission Measuring Set. Designed and developed in the Hallamore Electronics laboratories, this unique instrument provides a continuous display of transmission characteristics, as illustrated. Range is from 200cps to 4000cps. Applications include measurements of repeater or amplifier gain; determination of return losses; and location of loading faults. This is a valuable everyday tool for the engineer or technician. For further information please write Hallamore Electronics Company, Telephone Department, 714 No. Brookhurst St., Anaheim, California. PR. 4-1010

TMS-0100 ACCESSORIES

HYBRID TEST SET • ARTIFICIAL LINES

CAMERA ATTACHMENT • TEST WAGON

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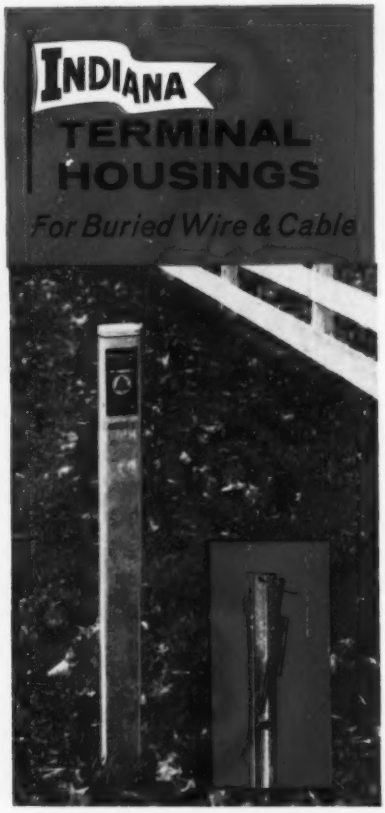

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You can save time and labor by specifying INDIANA Terminal Housings for your buried wire and cable jobs. The heavy No. 10 gauge steel stakes of the pedestal type can be driven into the ground. The cover plate can be attached or removed with ONE screw. All models are designed for ease in mounting terminal blocks and loading coils and in making splices or connections.

INDIANA Terminal Housings are heavily galvanized AFTER forming for longer life. Available in both pedestal and pole-mounted types and in four models capable of accommodating from one pair to 400 pairs.

Ask your distributor of telephone supplies or write for Bulletin No. TH-101R.

INDIANA
Steel & Wire Company, Inc.
Muncie, Indiana

dent in recent years for us to follow promptly rather than lead in design."

Simultaneous with the increasing need for technical compatibility, Mr. Reese said, there has developed a need for compatibility in appearance and operating features of the station apparatus used by subscribers.

Another important factor affecting our designs is quantity, Mr. Reese said, and continued:

"When compared with quantities of similar apparatus in the Bell System, the Independent manufacturer finds the decimal point closer to the left hand end of the number.

"Your customers demand the same varieties of service as do the Bell System's, yet the Independent manufacturer must be even more resourceful than it is necessary for the Bell System to be, in coordinating his designs to reduce the number of variations, particularly in parts and subassemblies, so that what volume he faces will not be dissipated needlessly."

Mr. Reese stated in conclusion: "The Independent telephone manufacturers must provide technical progress sometimes by leading, often by promptly following, and always by devising efficient and economical ways of producing equipment in the quantities demanded by its segment of an industry which is dominated by a very large and self-sufficient portion of it."

A. C. Herbert, association executive vice president, in his written report circulated during the convention, said the total Independent telephones in the state passed the 800,000-mark in 1960. This represented a gain of 4 per cent and was about equal to the Bell of Pennsylvania gain. Together, Pennsylvania companies now serve well over 5 million telephones.

Independent revenues, Mr. Herbert stated, gained over 10 per cent to nearly 60 million dollars, and plant investment jumped 11 per cent to 254 million dollars. Independents are now more than 92 per cent dial-operated, and most of the 38 common battery and 23 magneto exchanges will be converted before the end of 1962.

Mr. Herbert also remarked: "Ahead of us is the job of further reduction in line fills, probably to the extent of only four or five per line in the rural areas, and elimination of all four-party service in the base rate areas. And base rates will move further out into the country."

In the past year, the association sponsored a one-week management training course, conducted by Penn State University. Mr. Herbert said another is planned for October this year, as is a two-day session on budgeting.

Francis X. Welch, editor of *Public Utilities Fortnightly* and Washington editor of TELEPHONY, described "New Frontiers in Regulation," an address reprinted in full in the June 17 issue of this magazine.

Following Mr. Welch's talk, Robert W. Anthony, member of the Pennsylvania Public Utility Commission, told of the impressive reduction of over-

Convention Calendar

1961

Association	*Date*	*City*	*Hotel*
Alaska	Aug. 21, 22 and 23	Palmer	Unannounced
Tennessee	Sept. 6 and 7	Nashville	Hermitage
Arkansas	Sept. 11 and 12	Hot Springs	Arlington
Rocky Mountain	Sept. 13, 14 and 15	Boise, Ida.	Owyhee
Georgia	Sept. 14 and 15	Jekyll Island	Corsair Motel
Michigan	Sept. 19, 20 and 21	Grand Rapids	Pantlind
Nevada	Sept. 19, 20 and 21	Elko	Stockmen's
New England	Sept. 24, 25, 26 and 27	Poland Springs, Me.	Poland Springs
West Virginia	Sept. 26 and 27	Wheeling	Oglebay Park
USITA	Oct. 8, 9, 10 and 11	Chicago	Conrad Hilton
South Carolina	Oct. 23 and 24	Clemson	Clemson House
Virginia	Oct. 26 and 27	Roanoke	Roanoke
Oklahoma	Nov. 8 and 9	Oklahoma City	Skirvin
Alabama-Mississippi	Nov. 13 and 14	Birmingham	Thomas Jefferson
Florida	Nov. 26, 27 and 28	Miami Beach	The Carillon
North Carolina	Dec. 4 and 5	Pinehurst	Carolina

*Joint meeting

loaded party lines in the state. He also said of the state's held orders that all whose service has been deferred will be served by the end of 1961. A similar improvement in the service regrade backlog is forecast; i.e., reduction to zero by the end of the year.

"How to Get Others to Think and Act Favorably With You," Millard Bennett of New York City, said, involves learning how to approach people, recognizing that normally action springs from the emotions rather than reason. He said the technique is an acquired skill calling for knowledge, initiative, experience and ingenuity.

Everything and every person is growing mentally or physically every minute—or dying, he stated. Mr. Bennett described a "30-10 power formula," which involves taking 30 minutes every day to become familiar with one subject or area that one wants to develop. As you read, look up the words you don't understand and then use each in five sentences, he advised, and pointed out that language is the vehicle of thought; a limited vocabulary limits thought.

Then (still following the line of how to get others to think and act favorably with you), Mr. Bennett said, translate your knowledge in terms of another person's interest. Tell them what, for example, a certain product will do for them. Find out what the other person's wants and needs are; how can he profit—by gaining a benefit or avoiding a loss.

Mr. Bennett recalled, too, that Charles Kettering once observed that people have come to fear failure too much. It's part of the practice essential to success, Kettering had said.

Directors for 1961-62 are:

Eastern district: A. C. Glick of Birdsboro; W. M. Gottschall of Lansford; G. A. Ruhl of Lewisburg; H. Y. Smith of Columbia; A. J. Sordoni Jr. of Dallas; J. H. Swope of Myerstown, and L. R. Thurston of Harrisburg.

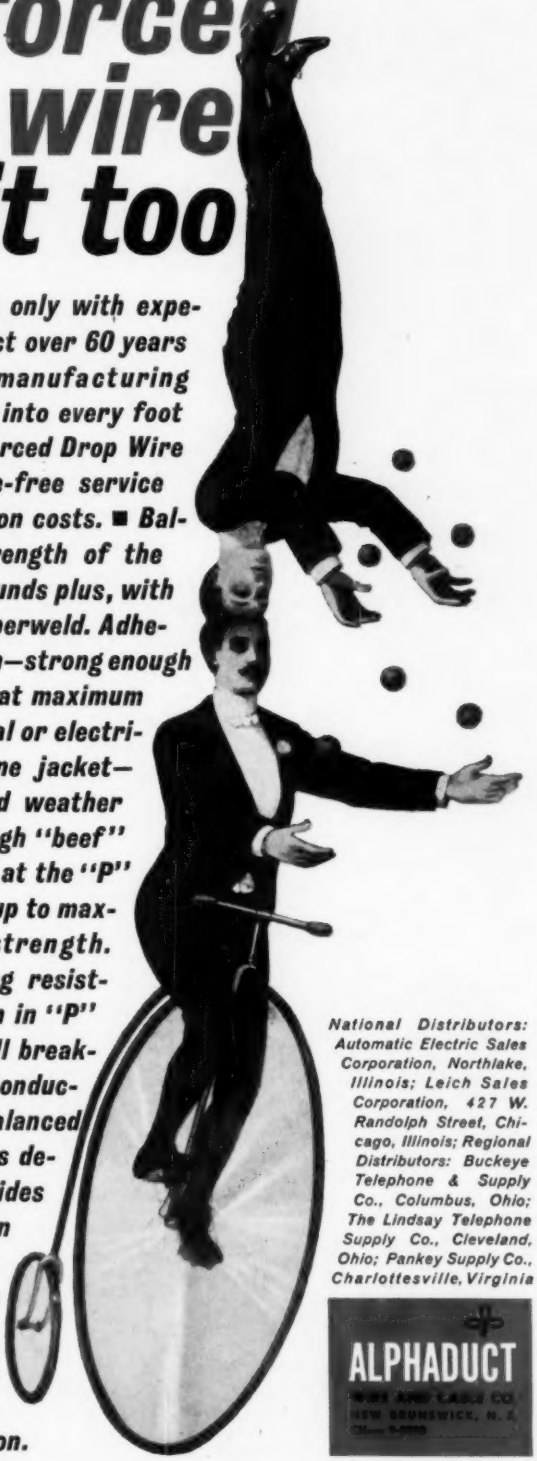
Western district: B. V. Cobler of Knox; G. M. Keefer of Gibsonia; C. E. McCormick of Erie; H. G. Payne of Export; S. E. Phillips of Butler; K. B. Schotte of Kittanning, and R. B. Scott of Waynesburg.

Officers for the coming year are: President, Mr. Keefer; vice presidents, Mr. Ruhl and Mr. McCormick; treasurer, Mr. Smith; executive vice president A. C. Herbert, and secretary, M. Ethel Cunningham.

Fettered

"There are some heads which have no windows, and the day can never strike from above; nothing enters from heavenward."—JOUBERT.

true balance... alphaduct reinforced drop wire has it too



True balance comes only with experience...at Alphaduct over 60 years of technical and manufacturing know-how are built into every foot of Alphaduct Reinforced Drop Wire for greater trouble-free service and lower installation costs. ■ Balanced breaking strength of the conductors—400 pounds plus, with #18 AWG, 30% copperweld. Adhesion of the insulation—strong enough to prevent slipping at maximum load without physical or electrical failure. Neoprene jacket—tough, abrasion and weather resistant with enough "beef" to prevent buckling at the "P" clamps all the way up to maximum conductor strength. Compression cutting resistance—no breakdown in "P" clamps up to overall breaking strength of the conductors. This sturdy balanced construction resists deformation and provides greater protection against lightning failures. ■ Insist on Alphaduct Reinforced Drop Wire... and remember, it's dated for comparison.

National Distributors: Automatic Electric Sales Corporation, Northlake, Illinois; Leich Sales Corporation, 427 W. Randolph Street, Chicago, Illinois; Regional Distributors: Buckeye Telephone & Supply Co., Columbus, Ohio; The Lindsay Telephone Supply Co., Cleveland, Ohio; Pankey Supply Co., Charlottesville, Virginia

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Shear-action cutter — cuts all soft or hard steel cable and wire rope up to ¾"! No deforming of wire — notched jaws lock cable during cut! Cuts fine or course stranded cable easily and cleanly.

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Cuts soft, non-steel cables, insulated or not, up to 1⅜"! O.D. Jaws pass each other for clean cutting! A "must" for every company using Copper or Aluminum Cable. Not recommended for ACSR.

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United Utilities Announces 3 Executive Appointments

United Utilities, Inc., has announced three executive staff appointments effective July 1, in the parent company offices at Kansas City—R. M. Crockett, as administrative director; Don D. Childers as revenue requirements director; and Forrest J. Eherenman as information director.

R. M. CROCKETT

Mr. Crockett will coordinate administrative policies and technical telephone operations of the United System throughout its 15-state area. He has

D. D. CHILDERS

served as staff coordinator for the past year.

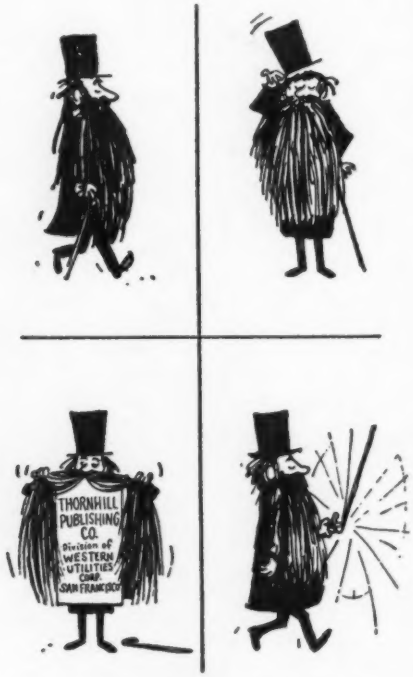
Prior to joining the United System in 1960, Mr. Crockett was vice president and general manager of the Northwest Telephone Co. at Redmond, Ore. The Northwest company was acquired by

F. J. EHERENMAN

United in 1960, and merged with the Oregon-Washington Telephone Co., a wholly-owned subsidiary.

On completion of schooling in Akron, O., and at the university of Akron, Mr. Crockett began his telephone career in 1944 with the plant department of the Ohio Bell Telephone Co.

In 1948 he accepted a position with the Sunland-Tujunga Telephone



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Co., Sunland, Cal., and engaged in plant and general office work.

Following this association, he started as local manager for the Citizens Utilities Co. of California in 1952, and progressed to general manager of the commercial, traffic, and accounting departments.

His affiliation with the Northwest Telephone Co. began in 1955, when he accepted the position of general manager.

Don D. Childers will supervise and coordinate revenue requirement activities for the United System. He returned to United following an interim association with the International Telephone & Telegraph Corp. in New York City.

Mr. Childers began his telephone career as a staff accountant with the Washington Public Service Commission in 1946. In 1948, he joined the Oregon-Washington Telephone Co. at Hood River, Ore. With this United subsidiary, he served in various capacities, the past position being that of general commercial and traffic superintendent.

In 1958, Mr. Childers was named connecting company agent for the United Telephone Cos., in Kansas City. In 1960, he was appointed staff coordinator for the parent company, and served in this position until becoming associated with ITT in the same year. At ITT he served as director of administration for the telecommunications operating group during 1960 and 1961.

In the new post of information director, Mr. Eherenman will be concerned with public relations, advertising, dissemination of internal information and the coordination of marketing activities throughout United's telephone operations.

Prior to this appointment, Mr. Eherenman served as general commercial supervisor for the United Telephone Co. of Indiana, Inc. He began his telephone career as a commercial representative with the Indiana subsidiary in 1946, and was promoted to his position as general commercial supervisor in 1954.

Mr. Eherenman is a combat veteran of World War II, and holds the rank of major in the Air Force Reserve.

He is a native of Warsaw, Ind., and attended Indiana Central College and Indiana University.

Gil Boers, Equipment Repair New Ka-Mo Distributors

The Gil Boers Equipment Co., and Equipment Repair & Supply Co., have been appointed by the Kwik-Mix Co. to be distributors of Ka-Mo tools for north central Illinois and adjoining Indiana counties.

Both distributors will sell and service the complete line of Ka-Mo earth and rock-boring machines, which includes air, hydraulic, electric, and gasoline-powered units for horizontal, vertical, and angular drilling.

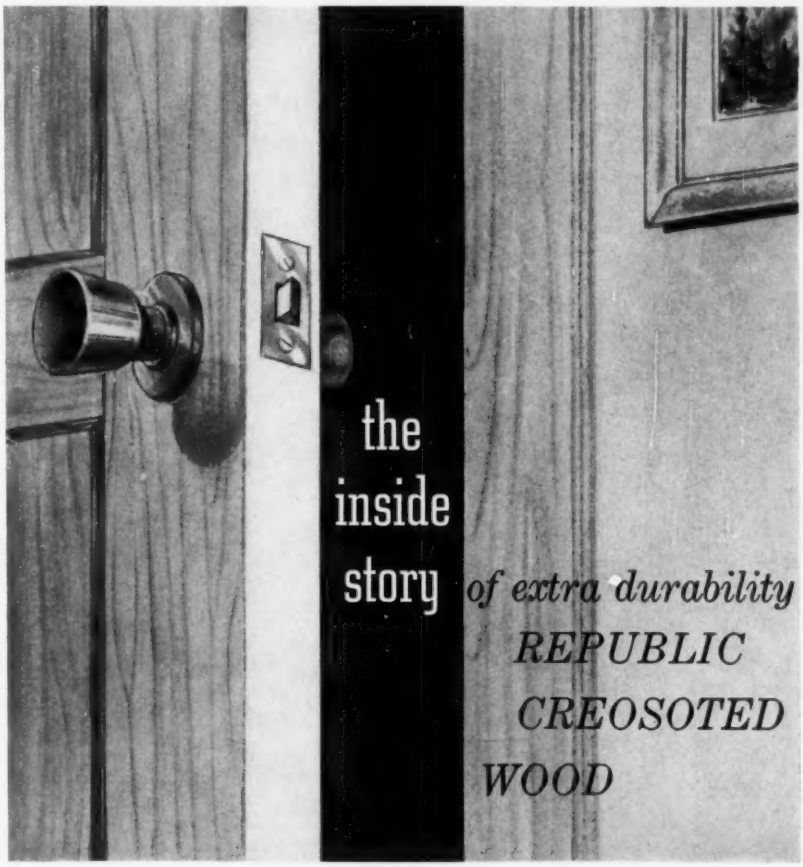
Gil Boers is president of Gil Boers Equipment, John Westlake is general manager, and Warren Thompson sales manager. The firm is located at 7625 S. Kedzie Ave., Chicago, Ill.

Thomas McClain is president and general manager; and E. C. McLain is sales manager of Equipment Repair & Supply Co., located at 32 E. Lake St., Northlake, Ill.

Western Contractors Supply Co., 4718 W. Lake St., Melrose Park, Ill., also retains distribution of the full Ka-Mo product line.

Nordby Assistant Sales Head For CF&I at Boise, Ida.

N. H. Nordby has been appointed assistant district sales manager for The Colorado Fuel & Iron Corp.'s Boise, Ida., district according to J. N. Counter, general manager of sales, western divi-



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sion, and J. A. Bole, manager of sales, northwestern division.

Mr. Nordby has been serving as district sales representative, general line, in Butte since 1955. He worked previously as wire rope sales district representative in Salt Lake City, having joined CF&I in 1949 as sales correspondent in the wire rope sales department in Denver.

A native of Colorado, Mr. Nordby is a graduate of the Colorado School of Mines with a degree in metallurgical engineering. He is a Navy veteran.

C. A. Burleson Is Tax Director for GT&E

Claude A. Burleson has been named director of taxes for General Telephone & Electronics Corp., it was announced on June 20 by Leon C. Guest Jr., vice president and controller.

In this new position Mr. Burleson will have over-all responsibility for federal and state tax matters for the corporation as well as subsidiary and affiliated companies. Mr. Burleson's appointment is effective July 1, and his office will be in the General Telephone Building at 730 Third Avenue, New York 17, N. Y.

C. A. BURLESON

Formerly Mr. Burleson had been assistant treasurer and tax manager of Merritt-Chapman & Scott Corp., and previously served with St. Regis Paper Co. as assistant to the manager of the tax department.

A native of Danville, Ill., Mr. Burleson attended Butler University, Indianapolis, Ind. He received his B.S. degree in public accounting and taxes in 1950 from Rutgers University. In 1957 he received his M.B.A. with a certificate in taxes from the state of New York.

During World War II, Mr. Burleson served with the 82nd Airborne Division from 1942 to 1945. He is presently a member of the Tax Executive Institute Inc. and Tax Institute Inc.

Mr. Burleson and his family reside in Fairlawn, N. J.

Arnold Manager Lenkurt-Italy; Piperno Moves Up

John B. Arnold has been named general manager of Marelli Lenkurt S.p.A. (Italy), radio communications equipment manufacturing subsidiary of General Telephone & Electronics International Inc., it has been announced by James J. Clerkin Jr., president of General Telephone & Electronics International, Inc.

Mr. Arnold has also been named managing director of Automatic Electric S.p.A. (Italy), communications equipment manufacturing, sales, and engineering subsidiary of AE International, Inc.

Mr. Clerkin also announced that Ugo Piperno, general manager of Automatic Electric S.p.A., will assume additional duties previously performed by Mr.

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- Fits in your pocket—weighs only 20 ounces
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Osborne is your best buy in portable two-way communication—it's the most usable equipment available today. Anyone can operate it, regardless of age or citizenship. Buy the standard Duo-Com 100 at $99.50—or the Duo-Com 100S, with squelch control to eliminate unwanted background noises, at $119.50.

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Arnold in his capacity as co-general manager. As general manager, Mr. Piperno has responsibility for administration and production under Mr. Arnold.

A native of Quincy, Ill., Mr. Arnold joined Automatic Electric Sales Corp. in 1948 as assistant to the president. A year later, he was appointed a sales engineer in Italy for Automatic Electric International.

Returning to the U. S. in 1957, Mr. Arnold became carrier and radio sales manager of Automatic Electric, and in 1959, he was appointed co-general manager of Automatic Electric S.p.A.

He holds a B.S.E.E. degree from Rensselaer Polytechnic Institute and an M.B.A. from the Harvard Graduate School of Business Administration. He also attended George Washington University Law School and the U. S. Naval Post-graduate School for Radio Engineering.

From 1943 until 1946, he served in the U. S. Navy, attaining the rank of lieutenant commander.

Mr. Arnold is also a director of Automatique Electrique S.A., Belgium, as well as a director and member of the executive committee of Fabbrica Italiana Valvole Radio Elettriche S.p.A. (FIVRE), Italy, a GT&EI associated company which produces electronic tubes. He is also a director of the American Chamber of Commerce for Italy.

J. B. ARNOLD

UGO PIPERNO

Born in Florence, Italy, Mr. Piperno has served in the telephone industry for more than 30 years. He joined Automatic Electric S.p.A. in 1933, became sales manager in 1938, and general manager in 1956.

Mr. Piperno is a graduate of Polytechnic Institute of Turin, Italy.

He is an officer in the National Association for the Electrotechnic Industry, a director of the Italian Electrotechnic Association, and a delegate to the Metalmechanic Industry's Association.

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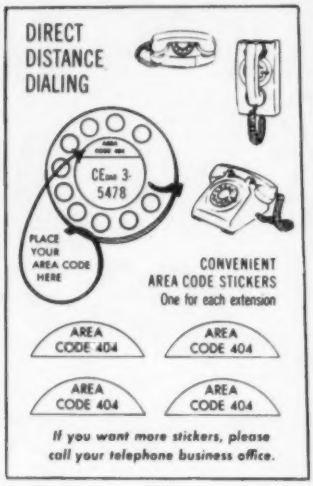
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ITT Appoints L. M. Olszyk PR Head for Latin America

International Telephone & Telegraph Corporation has announced the appointment of Louis M. Olszyk as area director-public relations for Latin America.

Mr. Olszyk joined the ITT System in December, 1957, as public relations and advertising manager of its Kellogg Division, Chicago, Ill., after serving for nine years as public relations director of the Curtiss Candy Co. Formerly a member of the editorial staff of the *Milwaukee Journal*, he also served as administrative assistant to the director of the Illinois Service Recognition Board and as public relations field director of the Veterans Administration in Illinois, Wisconsin and Indiana.

L. M. OLSZYK

A native of Milwaukee, Wis., Mr. Olszyk was graduated from Marquette University and later attended the University of Chicago School of Business. He served with the U. S. Marine Corps in the Pacific theater in World War II and was recalled to duty during the Korean conflict.

Mr. Olszyk is a member of the Public Relations Society of America and Sigma Delta Chi, Alpha Sigma Nu and Kappa Tau Alpha (honorary fraternities). A lieutenant colonel in the Marine Corps Reserve, he was commanding officer of the public information training units in Chicago until his new assignment to ITT headquarters in New York.

Raytheon Elects 2 Vice Presidents, Secretary

Election of two division general managers of Raytheon Co. as vice presidents of the electronics concern was announced on June 23 by Richard E. Krafve, president. Also announced by Mr. Krafve was the election of Richard P. Axten as secretary of the company, effective July 3.

Named as vice presidents were E. Nevin Kather, general manager of Raytheon's Semiconductor Division and John T. Thompson, general manager of the Distributor Products Division.

Mr. Kather, an 18-year veteran with Raytheon, joined the company in 1943 as an engineering section head in the Microwave and Power Tube Division. He served successively as production engineering manager, manufacturing manager, and assistant division manager. In July, 1959 he was named division manager and in February, 1961 was appointed general manager of the Semiconductor Division.

Mr. Thompson joined Raytheon in 1958 to head the newly-formed Distributor Products Division. Formerly, he had been with the General Electric Co. for 19 years, the last eight as manager of distributor sales for GE's Electronic Components Division. Earlier posts with GE gave him widespread experience in sales management, market research, manufacturing, personnel relations and finance.

Mr. Kather is an Iowa State College graduate with a BS degree in electrical engineering. He did graduate work at the University of Tulsa, University of Colorado and M. I. T.

Mr. Thompson holds an AB degree from the University at Ann Arbor.

Mr. Axten, the newly-elected secretary, has served as director of public relations since joining the electronics firm in June, 1955.

He succeeds Paul F. Hannah, who continues as vice president and general counsel. Because of the increasing scope and complexity of the company's business, Mr. Hannah is relinquishing his duties as secretary, held since 1947, to devote full time to his other responsibilities.

Succeeding Mr. Axten as director of public relations is C. Gayle Warnock, who has resigned his position as vice president in charge of corporate and financial public relations for the CCI Division, Communications Affiliates, Inc., which he has held since July, 1960.

Mr. Axten previously served for seven years as public relations director for Alexander Smith, Inc. and as an associate in the New York public relations firm of Earl Newsom & Co. Prior to wartime Naval service, he held production and industrial relations assignments with the American Steel & Wire Co., Cleveland. He graduated from Harvard in 1937, and is a member of the Public Relations Society of America.

Previously, Mr. Warnock served for two and one-half years as director of news services with International Tele-

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phone & Telegraph Corp. and for 11 years with the Ford Motor Company as regional and division public relations manager.

Earlier, he was managing editor of the Marion, (Ind.) *Leader-Tribune*, a member of the United Press Indianapolis bureau, and a member of the Chicago *Tribune's* political staff.

He is a member of the Overseas Press Club, Public Relations Society of America and Sigma Delta Chi.

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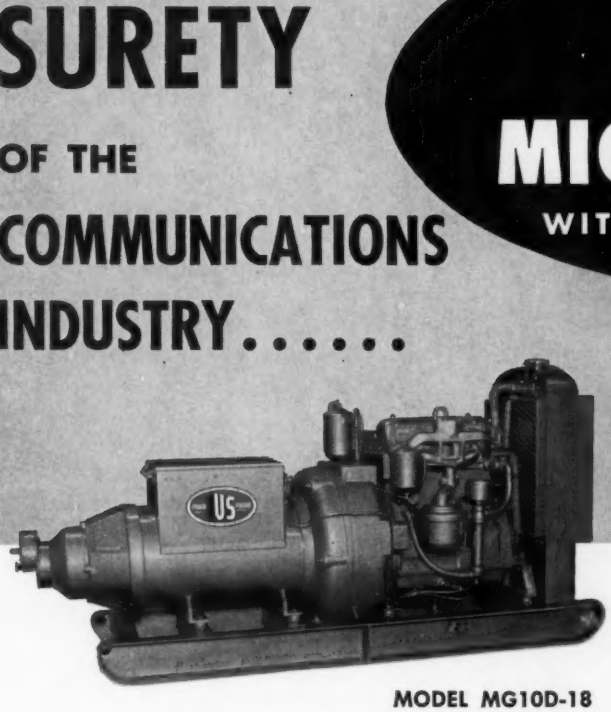

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10 KW DIESEL MICRO POWER

WITH NEW "BRUSHLESS" GENERATOR

"NO-BREAK" MICRO POWER ENERGY IS USED...

- at telephone central offices—carrier repeater stations.
- on Microwave installations for communications, remote control, telemetering.
- by public utilities for protective relaying, telemetering and load distribution.

U.S. MOTORS 10 KW DIESEL MICRO POWER functions either as a voltage stabilizer when power from the normal source is at usable, but uneven value — or as the independent power supply when there is a complete power failure. Regardless of the situation, critical communications equipment is assured a constant source of stable voltage electric power at all times. Micro Power, smoothly and with no break in required voltage, transfers the load back when commercial power is restored, at the same time continuing in its full time role of eliminating voltage droop, drop, or break.

10 KW DIESEL MICRO POWER FEATURES —

- no brushes, commutator, or slip rings to service or replace with new brushless generator
- squirrel cage motor with less than one percent slip
- conservatively rated bearings
- diodes arranged for easy access
- voltage adjusting potentiometer
- magnetic amplifier regulator mounted directly on unit
- overvoltage protection

authorized sales and service representatives in...

Chicago, Ill. *Dallas, Tex.* *Denver, Colo.*
Detroit, Mich. *Jacksonville, Fla.* *Jersey City, N. J.*
Los Angeles, Calif. *Portland, Ore.* *San Francisco, Calif.*

UNITED STATES MOTORS CORPORATION MICRO US POWER OSHKOSH • WISCONSIN

UNITED STATES MOTORS CORPORATION

102 West Fifth Avenue • Oshkosh, Wisconsin

Shortest way to Short-proof splices...

Nicopress Splice Separators...

Ideal combination for full-strength, short-proof splices in parallel and twisted-pair wires... Nicopress Sleeves and Nicopress Splice Separators.

Nicopress Splice Separators save time, save tape, eliminate need for staggering splices, provide neater splices, eliminate shorts. Linemen readily make full-strength equal-tension splices in both parallel and twisted-pair conductors with Nicopress Sleeves and Tools, then merely snap the high-dielectric Nicopress Separator between the two splices. Tape is easy to apply over the insulated splices.

Nicopress Splice Separators are available in two sizes... 3456-B for both parallel and twisted-pair drop wire, and 3457-CD for rural distribution wire.

The National Telephone Supply Company

5100 SUPERIOR AVENUE • CLEVELAND 3, OHIO

Canadian Mfr.—N. SLATER CO., LTD., HAMILTON, ONT., CANADA

Export Distributor—INTERNATIONAL STANDARD ELECTRIC CORP., NEW YORK, N. Y.

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